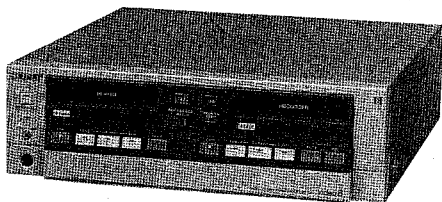


EVO-720P

RM-E720/KI-720P

SERVICE MANUAL

*AEP Model
UK Model*



SPECIFICATIONS

Video section

Video signal CCIR standards, PAL colour
Video recording system Rotary two-head helical scanning
Luminance signal recording system FM

Input RECORDER VIDEO IN: BNC connector (1)
1 Vp-p, 75 ohms, unbalanced, sync negative

Output RECORDER/PLAYER/MONITOR VIDEO OUT:
BNC connector (1 each)
1 Vp-p, 75 ohms, unbalanced, sync negative

Horizontal resolution 240 lines (typical, SP mode)
Signal-to-noise ratio 45 dB (SP mode, colour)

Audio section

Audio recording system Rotary head, PCM 2-channel or FM 1-channel system

Inputs RECORDER AUDIO IN: Phono jack (2)
-10 dBs, more than 47 k ohms
MIC: Minijack (1), monaural
-60 dBs, 6.8 k ohms

Outputs RECORDER/PLAYER/MONITOR AUDIO OUT: Phono jack (2 each)
-10 dBs, 47 k ohms
HEADPHONES: Stereo minijack (1)
-10 dBs, more than 10 k ohms

Dynamic range Standard track: more than 60 dB (SP/LP)

Frequency response PCM track: more than 90 dB
Standard track: 30 - 15,000 Hz (SP/LP)

PCM track: 20 - 15,000 Hz

General

Power requirements 220-240 V AC, 50/60 Hz
Power consumption 35W
Operating temperature 5°C to 40°C (41°F to 104°F)
Storage temperature -20°C to +60°C (-4°F to +140°F)

Dimensions Approx. 355 x 116 x 380 mm (w/h/d)
(14 x 4 5/8 x 15 inches)
Incl. projecting parts and controls

Weight Approx. 8 kg (17 lb 10 oz)

Accessories supplied

Editing controller RM-E720 (1)
Title keyboard KI-720P (1)
Audio/video cable VMC-710M (2 phono to 2 phono) (1)
Plug adaptor (BNC to phono) (1)
Pause control cord (mini to mini) (1)
Plug adaptor (mini to mini-mini) (1)
Pause control cord with converter (mini to 5-pin) (1)
Power cord (1)
Cleaning cassette VB-25CLN (1)

Design and specifications are subject to change without notice.

8 VIDEO CASSETTE RECORDER
SONY®



Video/Audio Signals and Switch Settings

For picture and sound to be monitored

Picture	Sound	RECORDER INPUT SELECT	MONITOR AUDIO OUTPUT SELECT	PLAYER or RECORDER button on electronic
Picture signal of PLAYER	PCM track PCM and standard tracks Standard track	PLAYER or LINE	PCM MIX STD	PLAYER
Playback or recording signal of RECORDER	PCM track PCM and standard tracks Standard track	PLAYER or LINE	PCM MIX STD	RECORDER
Input signal from an external equipment	Stereo Monaural	LINE	PCM MIX STD	PLAYER

For sound to be recorded

Playback VTR	Recording VTR	RECORDER INPUT SELECT	PLAYER AUDIO OUTPUT SELECT	Sound to be recorded (track)
RECORDER of this VTR	RECORDER of this VTR	PLAYER	PCM	PCM L track: Sound of PCM L track PCM R track: Sound of PCM R track Standard track: Sound of PCM L and R tracks
			MIX	PCM L track: Mixed sound of PCM L and standard tracks PCM R track: Mixed sound of PCM R and standard tracks Standard track: Mixed sound of PCM L, R, and standard tracks
			STRAIGHT	PCM L track: Sound of PCM L track PCM R track: Sound of PCM R track Standard track: Sound of standard track
VTR connected to RECORDER AUDIO OUT jack	Any position	Any position	PCM	L channel: Sound of PCM L track R channel: Sound of PCM R track
			MIX	L channel: Mixed sound of PCM L track and standard track R channel: Mixed sound of PCM R track and standard track
			STRAIGHT	L and R channels: Sound on standard track (monaural)
VTR connected to RECORDER AUDIO OUT jack	PLAYER	Any position	PCM	L and R channels: Mixed sound of PCM L track and PCM R track
			MIX	L and R channels: Mixed sound of PCM L track, PCM R track and standard track
			STRAIGHT	L channel: Mixed sound of PCM L track and standard track R channel: Mixed sound of PCM R track and standard track
RECORDER of this VTR	VTR connected to RECORDER AUDIO OUT jack	Any position	Any position	L channel: Mixed sound of PCM L track and standard track R channel: Mixed sound of PCM R track and standard track
VTR connected to RECORDER AUDIO IN BNC	RECORDER of this VTR	LINE	Any position	PCM L track: L channel sound PCM R track: R channel sound Standard track: L and R channel sound (monaural)
	VTR connected to RECORDER AUDIO OUT jack	LINE	Any position	L channel: L channel and monaural (L and R channel) sound R channel: R channel and monaural (L and R channel) sound


When a tape with the same sound recorded on the PCM and standard tracks is played back on the RECORDER of this VTR, the mixed sound of the PCM and standard tracks is output. This is not a problem.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

- Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
- Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
- Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
- Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
- Check the B+ voltage to see it is at the values specified.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

EVO-720P

RM-E720 KI-720P

SONY SERVICE MANUAL

AEP Model
UK Model

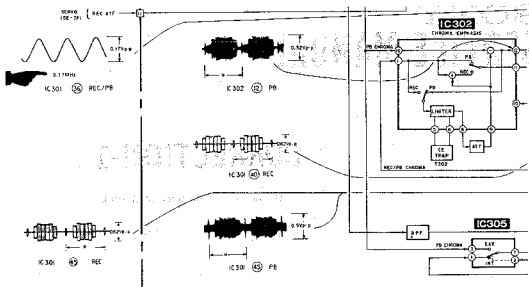
CORRECTION-1

Please correct your Service Manual.

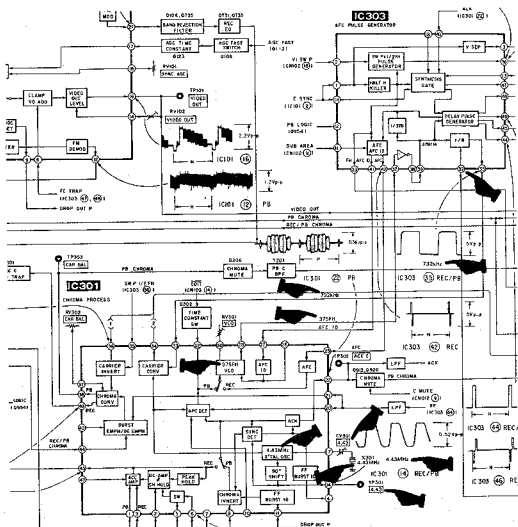


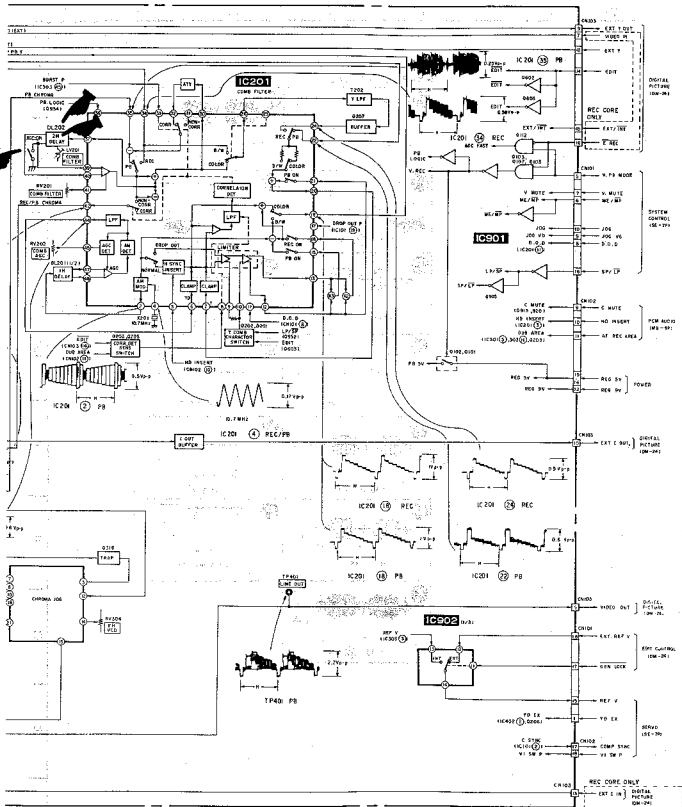
corrected portion

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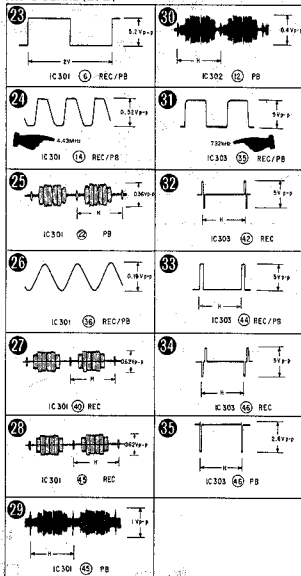
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25 26 27 28 29 30

HK-3 BOARD (2/2)



A

B

C

D

E

F

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PARTS ARRANGEMENT DIAGRAM FOR
ADJUSTMENT

RM-E720 (EDITING CONTROLLER)

KI-720P (TITLE KEYBOARD)

Precautions

On safety

- Before operating, check that the operating power voltage and frequency of the unit are identical with those of the power supply.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Should the power cord of the unit be not to be used for an extended period of time, it is not to be left.
- The unit is not disconnected from the AC power cord, pull it out by the plug. Never pull the cord used for an extended period of time.
- Do not touch the unit directly if it is hot. If the unit is hot, wait until it is cooled down. If it is a microwave oven or a large loudspeaker, do not touch it. If it is a microwave oven, even if the unit itself has been turned off.

On installation

- Allow adequate air circulation to prevent internal heat buildup. Do not place the unit on surfaces (rugs, carpets, etc.) or near materials (curtains, wallpaper, etc.) that may catch fire.
- Do not install the unit near heat sources such as radiators, exposure dust, mechanical vibration or sunlight.
- The unit is designed for operation in a horizontal position. Do not install it in an inclined position.
- Keep the unit and cassette tapes away from moisture.
- Do not place any heavy object (more than 13 kg, 28 lbs 10 oz) on the unit.

On operation

- When the unit is not in use, turn the power off to conserve energy and to extend its useful life.
- Do not use the unit and allow video cassettes after recording or playback.

On cleaning

Clean the cabinet, panel and controls with a dry soft cloth, or a soft cloth lightly moistened with a mild detergent solution.

Do not use any type of solvent, such as alcohol or benzene, which might damage the finish.

On repacking

Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit to another location, repack it as instructed on the carton.

On cassette care

Store cassettes in their cases and keep them in an airtight container to prevent intrusion of dust and moisture.

If you have any questions about this unit, contact your Sony dealer.

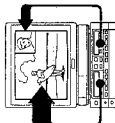
Outline

Features

The EVO-720P is an 8 mm compact editor for business use. It is a 1/2" format video deck mounted in a single unit.

Picture-picture function

By connecting a color monitor to the MONITOR OUT terminal, the picture of the video cassette being edited can be displayed on the monitor screen simultaneously. The main and subsidiary pictures can be inverted by pressing one button.



High picture quality editing

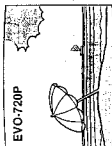
This unit handles the Y (luminance) signal and the C (chrominance) signal of the video signal separately. This reduces picture impairment in editing.

Digital freeze picture

One frame of the picture can be stored in the digital memory as a freeze picture. This is convenient for editing a video cassette in a new or making flickering picture stable when editing.

The insert function

The supplied still keyboard allows the creation of still pictures. The still pictures of cassettes can be selected. The stills can be placed in the video position or freeze pictures or displayed on the black or transparent background.



Various scene modes

The JOG dial and SHUTTLE (ing) located on the editing controller allow frame-by-frame playback, variable speed playback (1/2, normal and 2 times normal speed), still advance and still rewind. The normal speed in a forward direction and 2 and 13 times normal speed in a reverse direction in both forward and freeze directions, as well as freeze pictures.

Three editing methods

The following editing methods are available by using the editing controller supplied.

Accessible editing	Quick editing	To edit one scene
Programme editing	To edit multiple programmes automatically by assigning such as scene, chapter, etc.	
Sample insert editing	To restore a portion of the recorded tape with a new scene.	

For further details, refer to "tape editing methods" available with this unit" on page 5.

Tape Editing Methods Available with This Unit

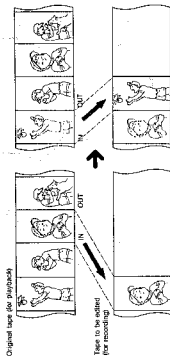
There are three editing methods. Simply press one button to start editing in any method, and the unit will automatically assign the scenes to be edited. After editing, check the original tape contents carefully to select the necessary portions to be edited. Making a list of editing programmes is recommended.

To Edit Multiple Scenes in the Desired Order — ASSEMBLE EDITING

The assemble editing is useful for editing the desired scenes successively from the beginning of a new tape. There are two methods in assemble editing.

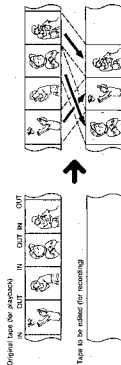
To edit scenes one by one — QUICK EDITING

Press the END button to start editing and press the END button to stop editing while viewing the tape on which a new scene is to be edited. Edit the desired scenes one by one by repeating this procedure.
For quick editing, the title code may not have been recorded on tape. For the time code, see page 1.



To edit scenes in the assigned order automatically — PROGRAMME EDITING

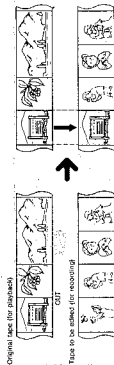
First assign the beginning (IN point) and the end (OUT point) of the scenes to be edited and the order of editing. This data are stored in memory. By pressing the EDIT button, editing of the assigned scenes is carried out automatically in the assigned order.
The scene to be edited is called a "programme". A freeze picture and title can be assigned as a programme as well as a motion picture.
For programme editing, the time code should have been recorded on the original tape.



To Replace a Portion of Tape with a New Scene — SIMPLE INSERT EDITING

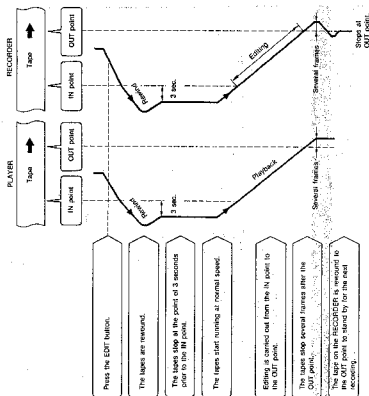
The simple insert editing is useful for replacing a portion of the recorded tape with a new scene and new scene. This is convenient when inserting a title.

First assign the end point (OUT point) of editing while viewing the tape on which the new scene is to be inserted and store the point in memory. Then record the tape and press the EDIT button to start editing. Editing will stop at the assigned point.
For simple insert editing, the time code should have been recorded on the tape to be edited.



What is a Prevail?

"Prevail" is a method designed to run the original tape and the tape to be edited for a period of 3 seconds prior to the desired editing starting point. This feature is designed to facilitate frame advance operations, thus making possible highly accurate editing.



Noise

- During prevail, the tapes start running and stop automatically.
- The period requires of prevail is 3 seconds for this unit.
- When the tapes stop at the beginning of the original tape, this part will not be edited correctly. In this case, a blank portion for 3 seconds will be made at the beginning of the edited tape.

What is a Time Code?

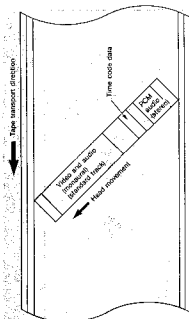
Each scene recorded on a tape can be numbered in units of frame (1/25 seconds) by the hour, minute, second and frame. This is a time code. The time code is automatically recorded during editing, or it can be recorded separately. Programme editing and simple insert editing are carried out by using the recorded time code.

Note

The time code used in this unit is the special 8 mm format time code for EVO-200. It consists of hours, minutes, seconds, and frames data.

Format of 8 mm Video Cassette Tape

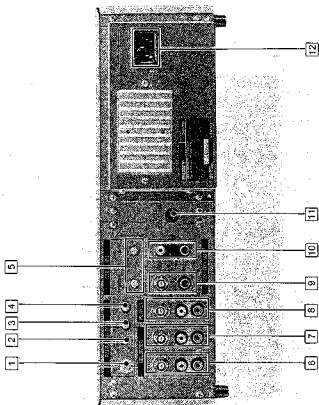
The video and audio information are recorded on an 8 mm video cassette tape according to the following allocation. This unit allows recording of the time code as well as other information.



Recording time, Playback time, and stillset frames are recorded on the tape. During playback, the mode in which the tape was recorded is selected automatically.

Cassette used	SP mode	LP mode
PS-30	30 min.	1 hr.
PS-60	1 hr.	2 hr.
PS-90	1 hr. 30 min.	3 hr.

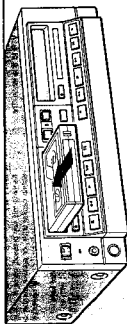
Rear



- 1 **PAUSE OUT jack (mini-pin)**
Connect this jack to the CONTROL L jack or the current pause jack of the VTR connected to the PLAYER OUT jacks for systematic editing operations.
- 2 **MODE SELECT switch**
When a VTR is connected to the PAUSE OUT jack, select the pause control mode of the VTR with this switch. See page 34.
- 3 **IN POINT ADJ (IN point adjustment) knob**
When editing onto the VTR connected to the PLAYER OUT jacks, turn this knob so that editing starts exactly at the IN point specified on the PLAYER.
- 4 **OUT POINT ADJ (OUT point adjustment) knob**
When editing onto the VTR connected to the PLAYER OUT jacks, turn this knob so that editing ends exactly at the OUT point specified on the PLAYER.
- 5 **STILL ADJ (freeze picture adjustment) screw**
When the freeze picture appears to flicker, turn these screws clockwise to adjust the picture. The RECORDER screw is for the tape in the RECORDER, and the PLAYER screw is for the tape in the PLAYER.
- Note**
The picture may not become stable completely by adjusting these screws. This is not a failure of the unit.
- 6 **RECORDER IN jacks**
Connect the BNC connector, AUDIO, 2 phono jacks. Input the video and audio signals to be recorded on the RECORDER.
- 7 **RECORDER OUT jacks**
(VIDEO, BNC connector, AUDIO, 2 phono jacks)
The video and audio signals being played back or being recorded on the RECORDER are output here.
- 8 **TITLE INFOBOARD connector (5 pin DIN)**
Connect the supplied title keyboard.
- 9 **AC IN (AC inlet)**
Connect the supplied power cord.
- 10 **MONITOR OUT jacks**
(VIDEO, BNC connector, AUDIO, 2 phono jacks)
Connect the colour monitor equipped with the photo-type video and audio input jacks. By connecting the monitor, the picture and sound of the recorded TV not equipped with the video and audio input jacks can be read as a monitor.
- 11 **MONITOR OUT jacks**
(VIDEO, BNC connector, AUDIO, 2 phono jacks)
Connect the colour monitor equipped with the photo-type video and audio input jacks. The picture-in-picture function is operate on the monitor. Select the output audio signal with the MONITOR AUDIO OUTPUT SELECT switch.
- 12 **PLAYER OUT jacks**
(VIDEO, BNC connector, AUDIO, 2 phono jacks)
The video and audio signals being played back on the VTR connected to the PLAYER OUT jacks are output with the PLAYER AUDIO OUTPUT SELECT switch.

The signal output from each output jack is determined by the positions of the switches on the front panel. Refer to "Video/audio signals and switch settings" on page 65.

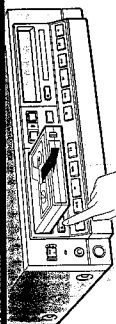
Cassette Insertion



1 Turn on the VTR.

2 Insert a cassette into the cassette compartment. The cassette will be loaded automatically and the **REC** indicator will light. The unit will be set to the freeze picture mode.

To Eject the Cassette



Press the **EJECT** button.
The cassette will be ejected automatically.

For loading or ejecting the cassette
Inserting and ejecting the cassette are possible when the power cable is connected to an AC outlet (the indicator lights), even if the VTR is not turned on.

Record prevention tab

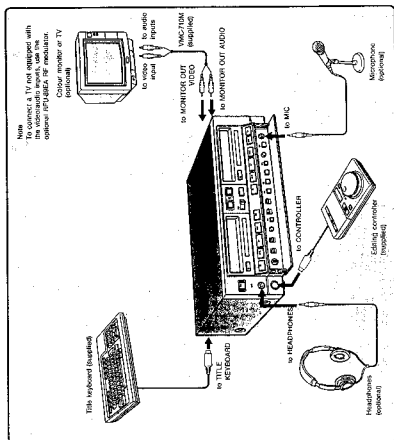
When a recording is made on a cassette, any previous recording is erased. To prevent this, a record prevention tab is provided on the cassette. Slide the tab on the rear of the cassette to the left, so that the tab whose is not.



Tab in original position
Prevents recording

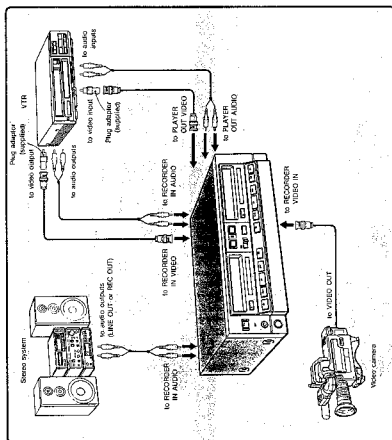
Basic System Connection

For tape playback and editing, connect a colour monitor (optional), the suggested editing controller and title keyboard (optional). The headphones and microphone may be connected as required.



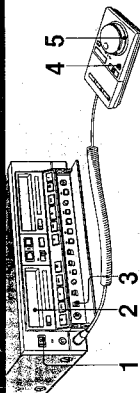
Connection of External Equipment

When recording from a video camera, another VTR, stereo system, etc., connect the required equipment using the appropriate connecting cord, in addition to the basic system connection.



Playback

Normal Playback on the PLAYER



- 1 Turn on the VTR and the colour monitor.
- 2 Insert a cassette into the PLAYER.
The unit will be set to the freeze picture mode.
- 3 Select the sound to be heard with the MONITOR AUDIO OUTPUT SELECT switch.

MONITOR AUDIO OUTPUT SELECT switch	
Sound to be heard	PCM
Sound on the PCM track	AUX
Mixed sound on the PCM and standard tracks	STD
Sound on the standard track	

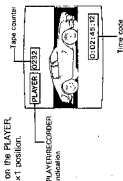
For details, refer to "Video/audio signals and switch settings" on page 65.

- 4 Press the PLAYER button on the controller.

Make sure that the PLAYER indicator is lit.

- 5 Press the II PAUSE button of the ► PLAY button on the PLAYER, or turn the SHUTTLE ring on the controller to the x1 position.

Playback will begin.



To play back the tape on the RECORDER

- 1 Insert a cassette into the RECORDER.
- 2 Press the REWINDER button on the controller.
- 3 Press the II PAUSE or the ► PLAY button on the RECORDER.

The other playback procedure is the same as the playback on the PLAYER.

To turn off the subsidiary picture on the monitor screen when the playback procedure is the same as the playback on the PLAYER, press the P in P button again.

To turn off the tape counter and time code display, set the DATA SCREEN switch on the front panel to OFF.

To stop playback

Press the ■ STOP button.
When the tape reaches its end during playback, it will be returned to the beginning. When playback was started with the SHUTTLE ring, however, the tape will not be returned.

To stop playback momentarily (freeze picture)

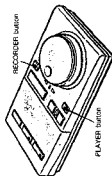
Press the II PAUSE button, or reset the SHUTTLE ring to the PAUSE position.
To resume playback, press the II PAUSE button again, press the ► PLAY button, or turn the SHUTTLE ring to the ► position.
When you reset the tape, tape is automatically advanced by one frame if the pause mode lasts for 7 minutes and the pause mode will then be resumed. This operation will be repeated for one hour, and the unit will be automatically set to still mode.

Various Playback Modes

Various playback modes will be obtained by using the JOG dial and SHUTTLE ring on the controller.

Using the JOG dial

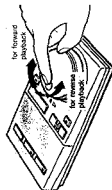
- 1 Press the PLAYER or RECORDER button according to the dock to be used for playback.



- 2 Play back a tape and set the VTR to the freeze picture mode.

- 3 Turn the JOG dial, clockwise for forward playback, and counterclockwise for reverse playback.

The tape will be played back at the speed according to the speed you are turning the dial. See table below.



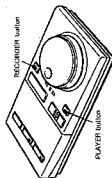
- 4 When you stop turning the JOG dial, the picture will freeze again.

When the JOG dial is in use, the JIS indicator on the VTR will be indicators on the tape transport buttons light.

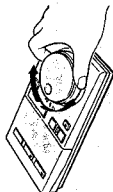
Playback speed obtained with JOG dial		Indicator of the tape transport buttons	
Forward	Fastest	II and ► light	► light
0.5 → 0.25 (slow)	0.5 → 0.25 (slow)	► light	► light
1 (normal)	1 (normal)	► light	► light
2 (fast)	2 (fast)	► light	► light

Using the SHUTTLE ring

- 1 Press the **PLAYER** or **REORDER** button according to the deck to be used for playback.



- 2 Turn the **SHUTTLE** ring to the position where the desired playback speed is obtained; clockwise for forward playback, and counterclockwise for reverse playback.
See table below.



- 3 To freeze the picture, reset the **SHUTTLE** ring to the center position.

Notes

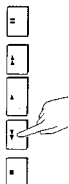
- If a **LAST** transport button is pressed on the VTR, the **SHUTTLE** ring will be released, and the **SHUTTLE** ring will go off.
- To protect the tape, the unit will be automatically set to **SHUTTLE** ring.
- In **x15** (high-speed) or **x13** (high-speed) mode, the vertical sync may be distorted depending on the picture.

When the **SHUTTLE** ring is in use, the **JS** indicator on the VTR and the indicators on the tape transport lights.

Playback speed obtained with SHUTTLE ring		Indicators on the tape transport lights
Forward	Reverse	
• 1/5 (slow)	• 1/5 (slow)	FF and REW buttons
• 1 (normal)	• 1 (normal)	
• 2 (double)	• 2 (double)	FF and REW lights
• 4 (quad)	• 4 (quad)	
• 8 (octal)	• 8 (octal)	FF and REW lights
• 15 (high-speed)	• 15 (high-speed)	

Using the FF and REW buttons on the VTR

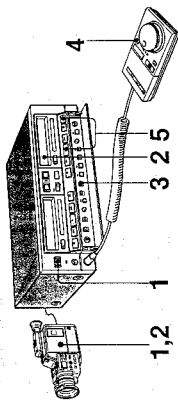
- 1 Press the **FF** button to play back a tape.
- 2 Press the **FF** or **REW** button.
• **FF** for cutting
• **REW** for rewinding



- 3 When you release the button, the playback will be resumed.

Recording

Connect a recording source, such as a video camera, referring to the connection diagram on page 20.



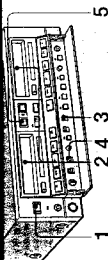
- 1 Turn on the VTR, colour monitor and video camera.
- 2 Insert a cassette into the RECORDER and prepare the video camera for shooting.
- 3 Set the RECORDER INPUT SELECT switch to LINE.
- 4 Press the RECORDER button on the controller.
- 5 While pressing the **REC** button, press the **PLAY** button. Recording will begin.

Note
Recording will be done in SP mode only. Recording in LP mode cannot be done with this VTR.
To stop recording immediately, press the **STOP** button on the RECORDER. To resume recording, press the **PLAY** button again. In order to protect the tape, the unit will be set to stop mode automatically if the pause mode lasts for 7 minutes.

Note
Press the **STOP** button on the RECORDER when the tape reaches its end during recording. If the unit be set to stop mode, the tape will be set to stop mode.

Tape Dubbing

To Dub from PLAYER to RECORDER on This VTR



- 1 Turn on the VTR and colour monitor.
- 2 Insert the original tape cassette into the PLAYER and a cassette for dubbing into the RECORDER.
- 3 Set the RECORDER INPUT SELECT switch to PLAYER.
- 4 Select the sound to be dubbed with the PLAYER AUDIO OUTPUT SELECT switch.
See "Video/audio signals and switch settings" on page 16.
- 5 Press the EDIT button on the VTR or on the controller.

Note

- Dubbing cannot be done when the record protection tab is closed. The cassette must be opened and the cassette is red or with certain commercially available cassette having a record prevention system. If such a cassette is inserted, the unit will be set to stop mode automatically when the EDIT button is pressed.
- During the tape dubbing, the two decks will stop when the dubbing is completed.
- Recording will be done in SP mode only. Recording in LP mode cannot be done with this VTR.

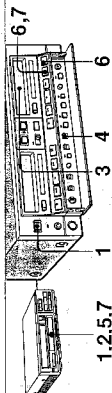
To stop dubbing, press the EDIT button on the VTR or on the controller.

Tape Dubbing

To Dub from an External VTR

By connecting another VTR to the RECORDER IN jacks, you can dub a tape of Beta format or other video format to an 8 mm format tape.

For connection, see page 20.



- 1 Turn on the VTRs and colour monitor.
- 2 Prepare the other VTR for playback of the original tape.
- 3 Insert a cassette for dubbing into the RECORDER. The RECORDER will be automatically set to the freeze picture mode.
- 4 Set the RECORDER INPUT SELECT switch to LINE.
- 5 Play back the original tape on the other VTR, and then press the II PAUSE button of the other VTR.
- 6 Press the ● REC button on the RECORDER to set it to the REC freeze picture mode.
- 7 Press the II PAUSE buttons of the other VTR and the RECORDER at the same time to start dubbing.

To receive the picture and sound of the external VTR. Connect the output jacks of the external VTR to the RECORDER IN jacks on the back of the recorder. When the tape reaches its end during dubbing on the other VTR, the RECORDER will automatically record to the beginning and will stop.

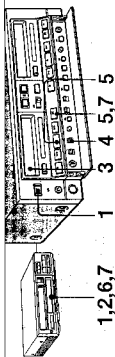
To receive the picture and sound of the external VTR. Connect the output jacks of the external VTR to the RECORDER IN jacks on the back of the recorder. When the tape reaches its end during dubbing on the other VTR, the RECORDER will automatically record to the beginning and will stop.

Set the RECORDER to the freeze picture mode before pressing the II PAUSE button, to set it to the REC freeze picture mode.

To Dub to an External VTR

By connecting another VTR to the RECORDER OUT jacks, you can dub an 8 mm format tape to a tape of Beta format or other video format.

For connection, see page 20.



- 1 Turn on the VTRs and colour monitor.
- 2 Prepare the other VTR for recording.
- 3 Insert the original tape cassette into the PLAYER.
- 4 Select the sound to be dubbed with the PLAYER AUDIO OUTPUT SELECT switch. For details, refer to "Video/audio signals and switch settings" on page 56.
- 5 Set the PLAYER to the freeze picture mode at the beginning of the source to be dubbed.
- 6 Start recording on the other VTR, then press the pause button of the VTR.
- 7 Press the II PAUSE buttons of the other VTR and the PLAYER at the same time to start dubbing.

To stop dubbing. Press the II PAUSE button on the other VTR, and press the II STOP button on the PLAYER. When the tape reaches its end on the PLAYER during dubbing, the RECORDER will automatically record to the beginning and will stop.

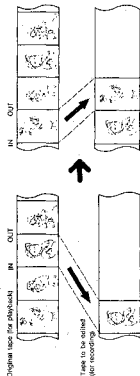
To stop dubbing. Press the II PAUSE button on the other VTR, and press the II STOP button on the PLAYER. When the tape reaches its end on the PLAYER during dubbing, the RECORDER will automatically record to the beginning and will stop.

Quick Editing – To Edit Scenes One by One

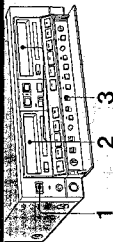
What Is Quick Editing?

Quick editing is used for editing desired scenes one by one.

- For the sound to be edited, refer to "Video/audio signals and switch settings" on page 68.



Preparation



- 1 Turn on the VTR and colour monitor.
- 2 Insert the original tape cassette into the PLAYER, and a cassette for editing into the RECORDER.
- 3 Set the RECORDER INPUT SELECT switch to PLAYER.

To Edit

-

Press the EDIT button.

Pre-roll will begin, and then editing will begin.

The duration of the programme (LAP TIME) will be displayed on the screen.

To freeze a desired playback scene during editing

Press the FREEZE button. The freeze picture will be edited. Once the FREEZE button is pressed, you cannot resume edit picture during the editing.)

At the desired ending point, press the END button.

Both the **PLAYER** and **RECORDER** will be set to the freeze picture mode.

The first scene (programme) is now edited. For other programmes, repeat steps 4 through 6.

Check by the indicators
The following indicators show the editing process.

Connect a microphone to the MIC jack. When the indicator light on the REC button is lit, the sound picked up from the microphone is recorded on the standard track of tape mixed with the original tape sound and picture.

Notes

When you do not view the point where the editing is to start, the steps 1 through 3 are unnecessary.

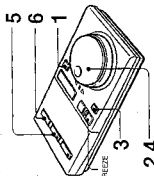
- The EDIT and END buttons on the VTR have the same function as those on the controller.

- The JOG dial, SHUTTLE ring and buttons of the unit are

Wait about 5 seconds, then perform the next operation.

with a Jolly superimposed can also be edited using the quick editing method. See "To edit a freeze picture" on

page 31 or "to edit a little" on page 34.



0172

00:11:16
01:04:33:19

At the desired ending point, press the END button.

Both the **PLAYER** and **RECORDER** will be set to the freeze picture mode.

The first scene (programme) is now edited. For other programmes, repeat steps 4 through 6.

Check by the indicators
The following indicators show the editing process.

Connect a microphone to the MIC jack. When the indicator light on the REC button is lit, the sound picked up from the microphone is recorded on the standard track of tape mixed with the original tape sound and picture.

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- The JOG dial, SHUTTLE ring and buttons of the unit are

Wait about 5 seconds, then perform the next operation.

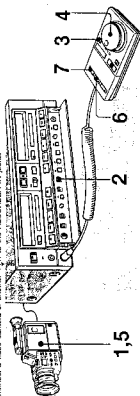
with a Jolly superimposed can also be edited using the quick editing method. See "To edit a freeze picture" on

page 31 or "to edit a little" on page 34.

Quick Editing

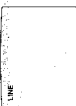
Quick Editing from a Video Camera or Other VTR

Connect a video camera or another VTR to the RECORDER IN jacks.



1 Prepare the video camera for shooting, or the other VTR for playback of the original tape.

2 Set the RECORDER INPUT SELECT switch to LINE.
The "LINE" indication will be displayed on the screen.



3 Press the RECORDER button and play back a tape for editing on the RECORDER.

4 Locate the point on tape where editing is to start, and set the RECORDER to the freeze picture mode.

5 Start shooting on the video camera, or start playback on the other VTR.

6 Press the EDIT button.

Perforil and then editing will begin.

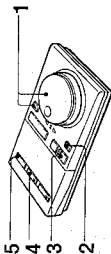
7 To stop editing, press the END button.

To display the picture of the video camera or the other VTR as the main picture.

Press the PLAYER button. In edit date, the time code and other editing data cannot be displayed on the screen. VTR continues playback, the playback sound is recorded together with the original tape sound and picture.

To Edit a Freeze Picture

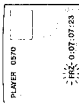
This VTR can store one frame of the picture in memory, and use the stored picture as a freeze-picture for editing.



1 Press the RECORDER button, locate the point of tape where the editing is to start, and set the RECORDER to the freeze picture mode.

2 Press the PLAYER button, locate the scene to be edited as a freeze picture, and set the PLAYER to the freeze picture mode.

3 Press the FREEZE button.
The "FRZ" indication will begin.



4 Press the EDIT button.

Perforil will begin. When the pre-roll is completed, the picture on the screen will freeze and editing of the freeze picture will begin.

5 When the desired period of time has elapsed, press the END button to stop editing.

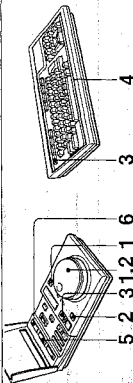
Notes

- The PLAYER continues playback during freeze editing. Before pressing the EDIT button, press the FREEZE button together with the freeze picture.
- By recording a microphone sound on the VTR track, you can combine the sound with the original tape sound and picture. On the VCR track, only the microphone sound will be recorded.
- To cancel editing of the freeze picture. Before pressing the EDIT button, press the FREEZE button to turn off the "FRZ" indication.

To Edit a Title

By connecting the modified title keyboard, you can create a title using alphabet, numerals and several symbols. The title can be recorded in an editing programme with a black background, or superimposed onto the picture being edited. For connection of the title keyboard, see page 16.

To superimpose a title onto the picture being edited



1 Press the RECORDER button, locate the point of tape where the editing is to start, and set the RECORDER to the freeze picture mode.

2 Press the PLAYER button, locate the scene on which you want to superimpose a title, and set the PLAYER to the freeze picture mode.

• If you want to edit the scene as a freeze picture, press the FREEZE button.

3 Press the TITLE button on the controller or on the title keyboard.

The cursor will blink on the monitor screen.
The subsidiary picture will disappear automatically.

4 Create a title using the title keyboard.

For details on the use of the keyboard, see page 61.

5 Press the EDIT button.

Permit will begin. When the pencil is completed, the picture and sound will be edited with the title.

6 At the desired ending point of the editing, press the END button.

To superimpose the title only on the desired portion of

editing

1 After pressing the EDIT button in step 5, press the TITLE

button. The cursor will blink on the monitor screen.

2 At the point where you want to superimpose the title,

press the TITLE button. The title will appear and be

superimposed on the picture.

By pressing the TITLE button during editing, you can turn:

the title on and off.

the title on and off.

the title on and off.

the title on and off.

the title on and off.

the title on and off.

To edit a title frame with a black background

1 Press the RECORDER button, locate the point of tape where the editing is to start, and set the RECORDER to the freeze picture mode.

2 Press the PLAYER button.

3 Press the TITLE button.

The cursor will blink on the monitor screen.
The subsidiary picture will disappear automatically.

4 Press the BLACK key on the title keyboard and create a title using the title keyboard.
For details on the use of the keyboard, see page 61.

5 Press the EDIT button.

Permit will begin. When the pencil is completed, the title frame created will be edited.

6 At the desired ending point of the editing, press the END button.

Notes

- When the RECORDER SELECT switch is set to LINE, the title cannot be recorded on the RECORDER.
- The title cannot be recorded on the RECORDER when the RECORDER is in the freeze picture mode.
- The title frame cannot be turned off and on during editing.

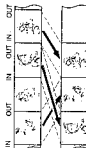
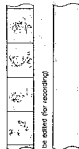
Programme Editing – To Edit Scenes in Succession

What Is Programme Editing?

Programme editing is used for editing the assigned scenes automatically in succession. First assign the starting point of editing (IN point) and the ending point of editing (OUT point) of each scene by observing the original tape, and store this data in memory. Press the EDIT button to start editing, and the assigned scenes will be edited automatically. When editing is completed, the IN point of editing is automatically stored in memory. When editing is started again, you can prevent the scene to be edited, and change the IN point or OUT point of editing as required.

For programme editing, the time code should have been recorded on the original tape.

Original tape (for reference)

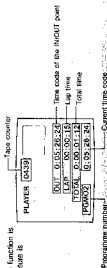


Notes

- When editing the time code on a pre-recorded tape, see "To record the time code" on page 60.
- The IN point or OUT point cannot be stored in memory at the following points of time:
 - When the time code is not recorded on the tape.
 - When the time code is not recorded on the tape (Advance the tape slightly).
 - When the time code is illegible due to noise or tape damage.
- During programme editing, the scene at the IN point of a programme will be edited first, and the scene at the OUT point of the previous programme. Therefore, the edited programme starts one frame before the assigned OUT point.
- When editing a scene, the scene at the IN point of the scene and switch settings* on page 66.

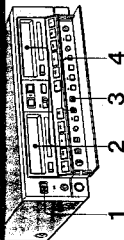
Check on the monitor screen

In the programme editing mode, the following indications will appear on the monitor screen.



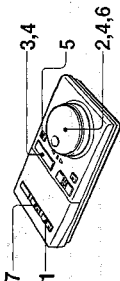
When the picture-in-picture function is activated, the main picture is of the PLAYER.

Preparation

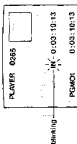


- 1 Turn on the VTR and colour monitor.
- 2 Insert the original tape cassette into the PLAYER, and a cassette for editing into the RECORDER.
- 3 Set the RECORDER INPUT SELECT switch to PLAYER.
- 4 Set the DATA SCREEN switch to ON.

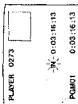
To Edit:



- Press the PGM MODE button.
The indicator on the button will light.

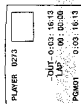


- ## 2
- Locate the beginning of the scene you want to edit using the JOG dial and SHUTTLE ring and set the **PLAYER** to the freeze picture mode.



- Press the **ENTRY** button.

The IN point is now stored in memory.

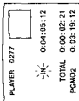


82

- 4** Locate the end of the scene you want to edit using the JOG dial and SHUTTLE ring, and press the ENTRY button.

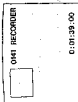
The OUT point is now stored in memory.

The first scene (programme) is now assigned.
Repeat steps 2 through 4 for other programmes.
Up to 99 programmes can be assigned.



- 5 After all programmes are assigned, press the **RECORDER** button.

- Locate the point of tape where editing is to start using the JOG dial and SHUTTEL ring, and set the RECORDER to the freeze picture mode.



- 7** Press the EDIT button.

Pre-roll will begin, and then editing of the assigned programmes will be carried out automatically.

When the editing is completed, both the **PLAYER** and **RECORDER** will be set to the freeze picture mode.

Noel

- [illegible]

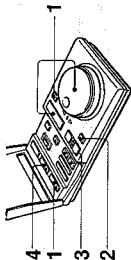
To cancel editing
before pressing the
button.

After pressing the EDIT button, press the END button. Two checks will be set to the freeze picture mode. If the PGM MODE button and the EDIT button are pressed again, the unit erases the tape from the programme number 01, once again.

Programme Editing

To Edit Part of the Assigned Programmes

You can start editing with the programme of the desired number and perform editing to the last programme.



1 Proceed steps 1 to 8 of "To Edit" on page 38 to assign the programmes and prepare the PLAYER and REORDER for editing.

2 Press the PLAYER button.

3 Press the "-", "0" or "+" button on the controller to select the programme number from which you want to start editing.

PLAYER 0336	
IN	0:04:05:00
LAP	00:03:05
TOTAL	0:00:08:20
PGMO2	0:04:05:00

4 Press the EDIT button.
Pre-tilt will begin, and then editing from the selected programme to the last programme will be carried out.

When the editing is completed, both the PLAYER and REORDER will be set to the freeze picture mode.

Notes

- If a programme number with no programme data stored is selected for the first programme, the programme editing will not be carried out.
- All the programme data for the selected programme number and last next data (data with the ONE/PGM button) below the programme editing mode will be specified automatically when the EDIT button is pressed.

To Assign a Freeze Picture as a Programme

This VTR can store one frame of the picture in memory. The stored freeze picture can be used as an editing programme.

1 Proceed steps 1 and 2 on page 38 to locate the scene as a freeze picture, and set the PLAYER to the freeze picture mode.

2 Press the FREEZE button on the controller.
The "FIZ" indication will blink.

PLAYER 0313	
FIZ	0:03:02:08
LAP	00:03:03
TOTAL	0:00:08:03
PGMO2	0:03:02:08

3 Press the ENTRY button.
The freeze picture is now stored in memory as a programme for 3 seconds.

PLAYER 0313	
IN	0:03:12:08
LAP	00:08:03
TOTAL	0:00:08:03
PGMO3	0:03:12:08

To edit the same freeze picture for more than 3 seconds, Press the FREEZE button again and press the ENTRY button. The same freeze picture is assigned to the next programme. Repeat this procedure as many times as you wish.

- To change the freeze picture to be edited:
 - Proceed the freeze picture entry.
 - Change the scene with the JOG dial, SHUTTLE key, etc. Then making sure that the "FIZ" indication is blinking.
 - When the ENTRY button has been pressed:
 - Press the "-" button on the controller repeatedly so that the freeze picture to be edited is selected.
 - Press the ONE/PGM button to store the data in memory. Assign a new freeze picture.

Notes

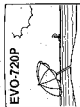
During editing of a freeze picture, the freeze picture is displayed on the whole screen. So the subsidiary picture disappears from the screen.

To Assign a Title as a Programme

By connecting the selected title keyboard, you can create a title using the digitised numerals and general characters. The title can be recorded as an editing programme with a black background, as well as the title superimposed onto the picture being edited. For connection of the title keyboard, see page 19.

To superimpose a title while editing a motion or freeze picture

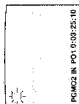
During programme assignment for programme editing (when the indicator of the PCM MODE button lights), proceed as follows:



- 1 Proceed steps 1 and 2 on page 38 to locate the scene on which you want to superimpose a title, and set the PLAYER to the freeze picture mode.

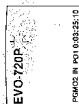
- 2 Press the TITLE button.

The subsidiary picture will disappear.
The cursor will blink on the monitor screen.



- 3 Create a title using the title keyboard.

For details on the use of the keyboard, see page 61.
• If you want to edit the scene as a freeze picture, press the FREEZE button.



- 4 Press the ENTRY button to store the IN-point in memory.

- 5 Locate the CUT point and press the ENTRY button.

• When you edit the scene as a freeze picture, this step is unnecessary.

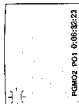
To edit a title frame with a black background

This VTR can store one title frame (title with a black background) in memory, and use it as an editing programme.

- 1 Press the PLAYER button.

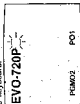
- 2 Press the TITLE button.

The subsidiary picture will disappear.
The cursor will blink on the monitor screen.



- 3 Press the BLACK key on the title keyboard and create a title using the keyboard.

For details on the use of the keyboard, see page 61.



- 4 Press the ENTRY button.

The title frame is now stored in memory as a programme for 3 seconds.

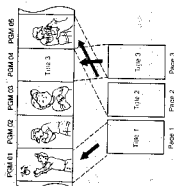
To edit the same title frame for more than 3 seconds:
Press the TITLE button again, press the TITLE FRAME button on the keyboard to call the same title frame, and press the ENTRY button.
The title frame will now be assigned in the next programme number for another 3-second programme. Repeat this procedure as many times as required.

Note

Only the sound from the microphone can be recorded. The sound of the title frame is not recorded.

To Create Titles Independently

Titles of up to 30 pages can be created in a jump and stored in memory, independently of scene assignment. Each title page can be assigned to the desired programme number, while the programme editing is in progress. The titles are coded as the assigned programmes.



2 Create titles.



- 1 Press the PGM MODE button to turn on the indicator.
- 2 Press the \leftarrow button on the controller to select the assigned scene for a title, and press the TITLE button.
The cursor, the page, programme number, etc. will be displayed on the screen.
- 3 Create a title using the title keyboard. For the use of the keyboard, see page 61.

Pages steps ② and ③ for other title pages. Titles of up to 30 pages can be created.

To display the scene on which the title is to be superimposed
Press the \leftarrow button on the controller to recall the scene assigned to the title on the monitor screen.
When the programme is a freeze picture, press the GO TO button on the controller.
When the programme is a freeze picture, press the GO TO button on the controller.
The title will be set to the scene of the selected programme number.

Note

To change or clear the title on a title page, make the page appear on the screen first. You can then change the title on the page as you want. See "How to use the title keyboard" on page 61.
Press the TITLE key while pressing the SHIFT key to clear the title.

To record the contents of the titles on tape
To contents of the titles recorded on the monitor on a tape. See page 46.

To Create Titles Independently (continued)

To clear the created title

- 1 In TITLE mode, press the PAGE + or - key on the keyboard to display the title to be cleared.
- 2 When pressing the SHIFT key, press the TITLE/CLEAR key on the keyboard.

To change the title

- 1 In TITLE mode, press the PAGE + or - key on the keyboard to display the title to be changed.
- 2 Change the title as required using the keys on the keyboard.

Various Functions Available in Programme Editing Mode

To clear one of the programmes

- 1 When the indicator of the PGM MODE button is lit, press the \leftarrow button on the controller to display the assigned scene number on the monitor screen.
- 2 Press the ONE PGM CLR button.

The memory of the assigned programme number will be erased.

You can enter a new scene to the same programme number. When erasing editing, the programme with no editing data will be skipped, so you can also leave the programme number without editing data.

To clear all the programmes

Before proceeding, make sure that all the programme data is unnecessary. If required, the programme with data can be recorded on tape. (See page 46.)

- 1 Press the ENDING DATA ALL CLEAR button inside the monitor screen.

The data in memory of all the programmes will be erased.

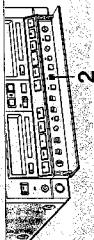
Note

Programmes cannot be erased when data saving, data loading or programme editing is being executed.

To Record Editing Data on Tape

The editing data, such as the IN and OUT points and title of each programme, can be recorded on the original tape. Once data is recorded, data can be repeatedly accessed as required. This is convenient for making two or more edited tapes of the same contents, or for assigning the programmes one day and recording the real editing the next day.

The editing data in memory will be cleared if the VTR is disconnected from the wall outlet for a long time.



1 Assign the programmes.

Refer to "To Edit" on page 38.

2 Press the EDITING DATA SAVE button.

The tape in the PLAYER will be recorded, and the data will be recorded on tape. During recording, the indicator on the EDITING DATA SAVE button, the indicator on the BURN TIME CODE WRITE button, and the "DATA SAVE" indication on the screen light.

After recording, the tape will stop automatically.



To stop recording the data

Press the EDITING DATA SAVE button or the ■ STOP button on the PLAY EH.

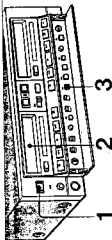
Data recording time

The data recording time is between 40 seconds and 3 minutes approximately, depending on the number and contents of the titles included in the data.

- This editing data cannot be recorded on the tape without the same code.
- Once data recording has been stopped midway, even the data recording cannot be resumed.
- Data recording cannot be done when the record prevention tab window on the cassette is red. Slide the tab so that the window is clear.
- The same programmes are recorded from the point of 0:00:00 on the tape. Data recording will erase all the previous existing data on that tape.

To Access the Recorded Editing Data

When changing or adding the editing data recorded on tape, or when executing the programme editing, load data into the memory of the VTR as follows:



1 Turn on the VTR and colour monitor.

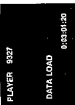
2 Insert the data recorded tape cassette into the PLAYER.

Press the EDITING DATA LOAD button.

The editing data will be loaded and then loaded into the memory of the VTR.

During loading, the indicator on the EDITING DATA LOAD button and the "DATA LOAD" indication on the screen light.

After loading, the PLAYER will be set to the freeze picture mode.



To stop data loading

Press the EDITING DATA LOAD button or the ■ STOP button on the PLAYER.

Data loading time

The data loading time is between 40 seconds and 3 minutes approximately, depending on the number and contents of the titles included in the data.

Notes

- Data cannot be accessed directly if the tape is damaged or the programme was the cleared if the data could not be accessed.
- If there is no editing data recorded on the tape, the "DATA LOAD" indication on the screen light will not appear. Press the EDITING DATA LOAD button again to release loading mode.

Simple Insert Editing — with a New Scene and Sound

What Is Simple Insert Editing?

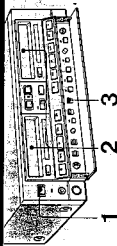
Simple insert editing is used for replacing a portion of the prerecorded tape with a new scene and sound. This is convenient for inserting a title, etc. The original tape is left in the RECORDER, and the new scene and sound are inserted at the beginning of the editing (IN) point and the scene is set and the EDIT button is pressed. The time code should have been recorded on tape for editing. This is not necessary for the original tape.



Notes

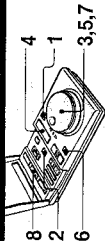
- To record the time code on a tape, see page 60.
- In simple insert editing, the picture and sound are edited together. For the sound to be edited, refer to "Waveform display and screen settings" on page 66.
- Simple insert editing cannot be done with an LP recorded tape.

Preparation



- 1 Turn on the VTR and colour monitor.
- 2 Insert the original tape cassette into the PLAYER, and a cassette for editing into the RECORDER.
- 3 Set the RECORDER INPUT SELECT switch to PLAYER.

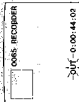
To Edit



- 1 Press the RECORDER button, and play back the tape for editing on the RECORDER.

- 2 Press the INSERT button.

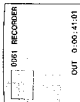
The indicator on the button will light.



- 3 Locate the point on tape where editing should start (IN point) using the JOG dial and SHUTTLE key, and set the RECORDER to the freeze picture mode.

- 4 Press the ENTRY button.

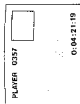
The OUT point is now stored in memory.



- 5 Locate the point where editing should start (IN point) using the JOG dial and SHUTTLE key, and set the RECORDER to the freeze picture mode.

Simple Insert Editing

- Press the **PLAYER** button, and play back the original tape on the **PLAYER**.
- Locate the beginning of the scene you want to edit using the **JOG** dial and **SHUTTLE** ring, and set the **PLAYER** to the freeze picture mode.



- Press the **EDIT** button.
Freeze will begin, and then the picture and sound of the original tape will be edited between the **IN** point and **OUT** point.

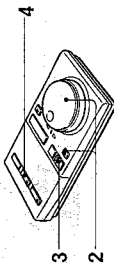
Once editing is completed, both the **PLAYER** and **RECORDER** will be set to the freeze picture mode.

Notes

- The edited picture will be distorted at the **OUT** point, as the newly edited picture and the pre-recorded picture may be connected smoothly at the **OUT** point.
- The maximum editing length for simple insert editing is 30 minutes.
- A freeze picture, like freeze, or motion or freeze picture with a little superimposed can also be edited using the simple insert editing method. To edit these programmed, press the **EDIT** button. An "LP" or "LP" will appear on the monitor.
- The display "LP MODE" will appear on the monitor.
- This tape to be used for simple insert editing cannot be recorded in **LP** along Play mode. You cannot do simple insert editing in **LP** mode.

To Edit a Freeze Picture

This VTR can store one frame of the picture in memory, and use the stored picture as a freeze picture for editing.

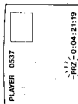


- Assign the editing **OUT** point, and locate the **IN** point on the **RECORD**, referring to steps 1 through 5 on page 48.

- Press the **PLAYER** button, locate the scene to be edited as a freeze picture, and set the **PLAYER** in the freeze picture mode.

- Press the **FREEZE** button.

The "FIZ" indication will blink.



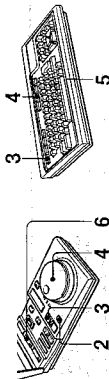
- Press the **EDIT** button.
The freeze picture will be edited between the **IN** point and the **OUT** point.

Notes

During freeze picture editing, the playback sound of the original tape will be recorded.

To Edit a Title

By connecting the supplied title keyboard, you can create a title using the published, numerical and several special characters. The keyboard can be used to create a title, or to superimpose onto the picture being edited. For connection of the title keyboard, see page 15.

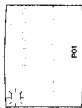


- 1 Assign the editing OUT point, and locate the IN point on the RECORDER, referring to steps 1 through 5 on page 46.

- 2 Press the PLAYER button.

- 3 Press the TITLE button.

The subsidiary picture will disappear.
The cursor will blink on the monitor screen.



- 4 • To superimpose a title on a motion picture: Locate the beginning of the desired scene, and set the PLAYER to the freeze picture mode.
• To freeze a picture: Locate the desired scene, set the PLAYER to the freeze picture mode and press the FREEZE button.
• To edit a title frame: Set the PLAYER to freeze picture mode and select the black background with the BLACK key on the title keyboard.

- 5 Create a title using the title keyboard.

For details on the use of the keyboard, see page 61.

- 6 Press the EDIT button.

The title frame with the black background and the title superimposed on the picture will be edited between the IN point and OUT point.

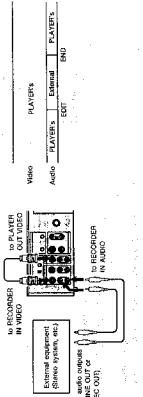
NOTE

When the title is superimposed on the picture, the playback head will stop. The original tape will be recorded during editing. When the title is superimposed on the picture, the title cannot be recorded on the RECORDER.

The picture from the PLAYER can be edited together with the sound from external audio equipment, or the picture from external video equipment can be edited together with the sound from the PLAYER.

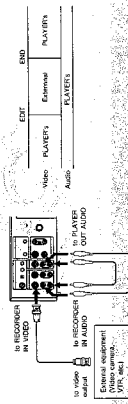
To edit the picture from the PLAYER and the sound from external audio equipment

The editing procedure is the same as that of quick editing. See page 30.
The tape will be edited as shown below.



To edit the picture from external video equipment and the sound from the PLAYER

The editing procedure is the same as that of quick editing. See page 30.
The tape will be edited as shown below.

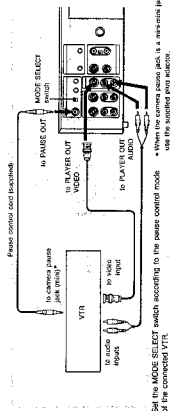


To Edit onto Another VTR

The picture and sound from the **PLAYER** and the titles created with this unit can be edited onto another **VTR** simultaneously while they are edited onto the **RECORPER** using the quick editing or programme editing method. By connecting the **PAUSE OUT** jack of this unit to the camera pause jack of the control unit, the **PAUSE** operation of the **RECORPER** can be controlled by the **PAUSE** operation of the **PLAYER**. The **PAUSE** operation of the other **VTR**, recording, start/stop on the other **VTR** can be controlled by this unit.

Connection

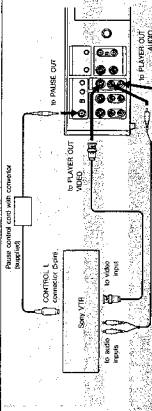
Connecting a VTR with a camera/pulley lock



Set the MODE SELECT switch according to the pause control mode of the connected VTR.

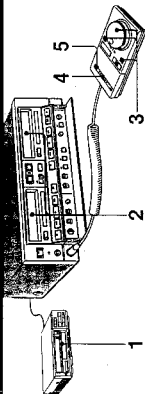
Pause control mode of VTR	MODE SELECT switch
REC PAUSE REC REC PAUSE	Set to A.
REC PAUSE REC REC PAUSE	Set to B.

Connecting a Sony VTR with a control L connector



Set the MODE SELECT switch to either A or B position

Operation



- 1 Insert a cassette for editing into the connected VTR and set the VTR to recording pause mode.
- 2 Insert the original tape cassette into the **PLAYER**, and a cassette for editing into the recorder.
 - To perform programme editing, press the **EDIT MODE** button and assign the programmes. (See page 34.)
- 3 Locate the point of the tape where editing is to start on this **PLAYER** and the **RECORDER** respectively, and set both clocks to the freeze picture mode.
- 4 Press the **EDIT** button.
Precut will begin, and then editing will begin automatically on the connected VTR and the **RECORDER** simultaneously.
- 5 To stop editing, press the **END** button.
The **PLAYER** and the **RECORDER** will be set to the freeze picture mode, and the connected VTR will be set to recording pause mode.

Notes

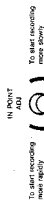
- A freeze picture, title frame, and a motion or freeze picture with a title superimposed can also be edited onto the connected VTR using the quick editing or programme editing method.
- Insert editing cannot be performed with the connected VTR.
- Do not disconnect or connect the plug to the PAUSE OUT connector when the connected VTR is in recording.
- The pause mode fly doing so, recording may start or pause on the connected VTR.

To Edit onto Another VTR

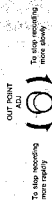
Fine Adjustment of the IN and OUT points

Recording start or stop on the connected VTR may not be accurately synchronized with this unit. In this case, the beginning or ending of scene editing on the connected VTR may be adjusted by the IN POINT ADJ. and OUT POINT ADJ. knobs on the rear of the unit to shift the timing of transmission of the recording start/stop control signal from this unit so that the complete scene can be edited.

To adjust the IN point



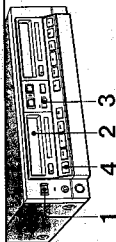
To adjust the OUT point



Once the IN and OUT point adjustments are performed, repeated adjustments are not necessary for the same VTR.

To Record the Time Code

This VTR is capable of recording the time code required for programme editing or simple insert editing on tape. The time code will be recorded from 03:00:00.00 to 03:59:59.99. When recording starts, if a time code has been recorded at that point on tape, it will be recorded from the next set of digits.



1 Turn on the VTR and colour monitor.

2 Insert a tape cassette to record the time code into the PLAYER, and locate the point of tape where time code recording is to start. Set the PLAYER to the freeze picture mode or stop mode.

3 Slide the 8 mm TIME CODE WRITE switch to the right.

The indicator on the switch will light and time code recording will begin. During recording, the elapsed time will be displayed on the monitor screen.



4 To stop time code recording, press the **STOP** button on the PLAYER.

When the tape reaches the end during time code recording, it will be returned to the beginning automatically.

Notes

- Record the time code on the pre-recorded portion of the tape only. Otherwise, editing may not be correctly performed.
- Time code recording cannot be achieved when the record prevention tab window of the cassette is set.
- The "TIME CODE" indication and a black band appear on the screen during recording of the time code.

How to Use the Title Keyboard

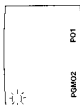
The title keyboard supplied is used to create titles to be inserted in quick editing, programme editing or simple insert editing. For details on editing the titles, refer to "To edit a title" or "To assign a title as a programme" in each editing method.

For connection of the title keyboard, see page 19.

To start creating a title
Press the **STOP** button on the computer or on the keyboard. The cursor will blink on the monitor screen. A character can be input at the cursor position.

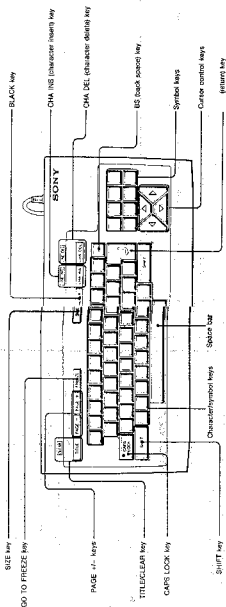
To input a character

Press the desired character key. Press the **SHIFT** key and the character key when the **SHIFT** key pressed, press the key on the right of the " " symbol.



Character to be input	Keys to be pressed	To input	Example
Capital letter	SHIFT + Character key	M	SHIFT + M
	Character key	M	M
Small letter	Character key	m	m
Number	Number key	3	3
Symbol indicated on the lower part of the key	Symbol key	#	#
Symbol indicated on the upper part of the key	SHIFT + Symbol key	#	SHIFT + #

How to Use the Title Keyboard



To move the cursor
Press the **GO TO FREEZE** key. The cursor moves in the direction indicated on the key.

To move the cursor to the next line
Press the **SIZE** key.

To delete a character
To delete the character at the cursor position, press the **CHA DEL** key.

To delete the character at the cursor position, press the **CHA DEL** key. To delete the character at the cursor position, press the **CHA DEL** key. To delete the character at the cursor position, press the **CHA DEL** key.

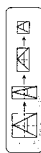
To insert a character
Press the **CHA INS** key. A blank space is inserted at the cursor position. To insert a new character, press the **CHA INS** key while pressing the **SHIFT** key to insert a blank line.

To select the background
Press the **BLACK** key. A black or transparent background can be selected alternately. To select the background, press the **BLACK** key.

To delete the entire title on the screen
Press the **TITLE/CLEAR** key. All the characters on the screen will be deleted.

To change the character size
Press the **SIZE** key. The size of the cursor changes in the color as illustrated below.

The cursor size indicates the character size. Press the **SIZE** key. The cursor size indicates the character size. Press the **SIZE** key. The cursor size indicates the character size. Press the **SIZE** key.



To select the background
Press the **BLACK** key. A black or transparent background can be selected alternately. To select the background, press the **BLACK** key.

To delete the entire title on the screen
Press the **TITLE/CLEAR** key. All the characters on the screen will be deleted.

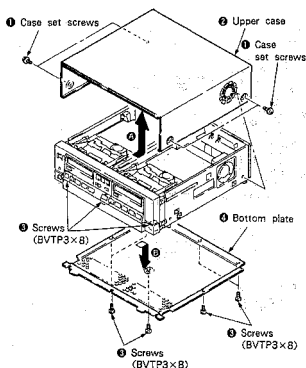
To change the title page
Press the **PAGE +/-** key for the next page, and the page number is displayed. The characters displayed on each page are retained in memory.

To display the freeze picture on which a title is to be superimposed
When the indicator of the **PSM MODE** button is lit, select the programme number to which the freeze picture is assigned with the **PSM** keys on the keyboard. Then press the **GO TO FREEZE** key on the keyboard.

SECTION 2 DISASSEMBLY

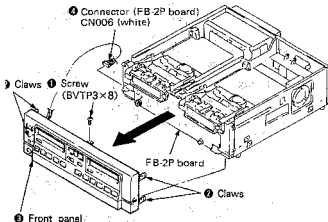
2.1. REMOVAL OF CABINET

- 1) Remove the four case set screws ①.
- 2) Remove the upper case ② in the direction of arrow A.
- 3) Remove the nine screws ③.
- 4) Remove the bottom plate ④ in the direction of arrow B.



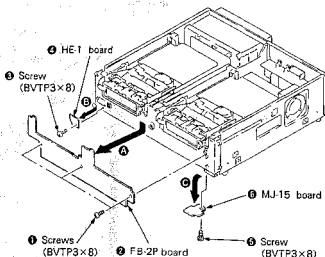
2.2. REMOVAL OF FRONT PANEL

- 1) Remove the screw ①.
- 2) Disengage the claws ② in four places.
- 3) Remove the front panel ③ in the direction of arrow.
- 4) Remove the connector (CN006) ④ from the FB-2P board.



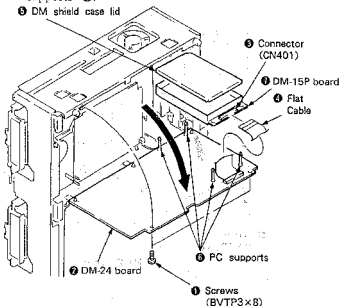
2.3. REMOVAL OF THE FB-2P, HE-1 AND MJ-15 BOARDS

- 1) Remove the three screws ①.
- 2) Remove the FB-2P board ② in the direction of arrow A.
- 3) Remove the screw ③, and remove the HE-1 board ④ in the direction of arrow B.
- 4) Remove the screw ⑤, and remove the MJ-15 board ⑥ in the direction of arrow C.



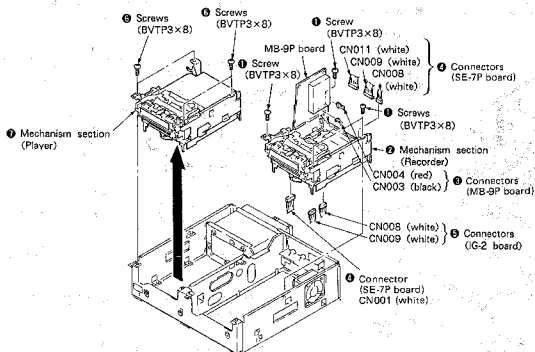
2.4. OPENING THE DM-24 AND DM-15P BOARDS

- 1) Remove the two screws ①.
- 2) Open the DM-24 board ② in the direction of the arrow.
- 3) Remove the flat cable ④ from the connector (CN401) ③.
- 4) Remove the DM shield case lid ⑤.
- 5) Remove the DM-15P board ⑦ from the four PC supports ⑥.



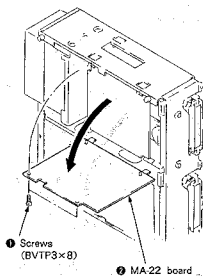
2.5. REMOVAL OF MECHANISM SECTIONS

- 1) Remove the four screws ①, and remove the mechanism section ②.
- 2) Open the MB-9P board as described in 2-10.
- 3) Remove the two connectors (CN003, CN004) ④ from the MB-9P board.
- 4) Remove the four connectors (CN001, CN008, CN009, CN011) ⑤ from the SE-7P board.
- 5) Remove the two connectors (CN008, CN009) ⑤ from the IG-2 board.
- 6) Remove the four screws ③, and remove the mechanism section ⑦.
- 7) Remove the connector as described for the other mechanism section (recorder).



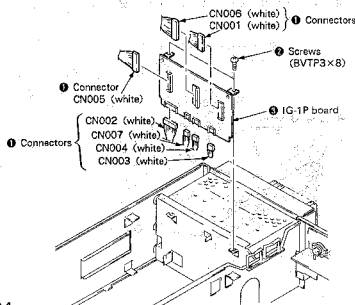
2.6. OPENING THE MA-22 BOARD

- 1) Remove the two screws ①.
- 2) Open the MA-22 board ② in the direction of the arrow.



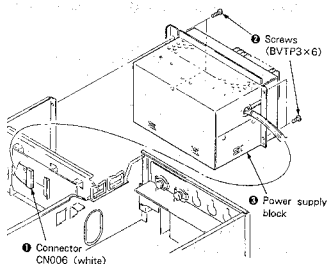
2.7. REMOVAL OF THE IG-1P BOARD

- 1) Remove the seven connectors (CN001 to CN007) ①.
- 2) Remove the two screws ②.
- 3) Remove the IG-1P board ③.



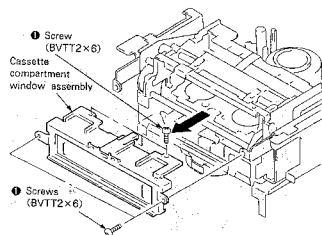
2-8. REMOVAL OF POWER SUPPLY BLOCK

- 1) Remove the connector (CN006) ①.
- 2) Remove the four screws ②.
- 3) Remove the power supply block ③.



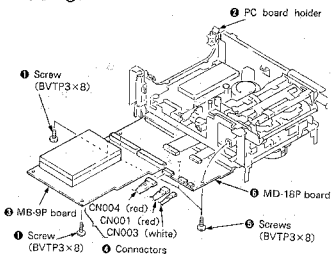
2-9. REMOVAL OF CASSETTE COMPARTMENT WINDOW ASSEMBLY

- 1) Remove the four screws ①.
- 2) Remove the cassette compartment window assembly ② in the direction of the arrow.



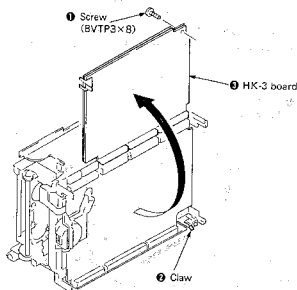
2-10. OPENING THE MB-9P AND MD-18P BOARDS

- 1) Remove the two screws ①.
- 2) Disengage the claws of the board holder ② and open the MB-9P board ③.
- 3) Remove the three connectors (CN001, CN003, CN004) ④.
- 4) Remove the three screws ⑤, and open the MD-18P board ⑥.



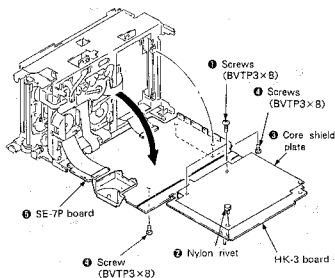
2-11. OPENING THE HK-3 BOARD

- 1) Remove the screw ①.
- 2) Disengage the claw ② and open the HK-3 board ③ in the direction of the arrow.



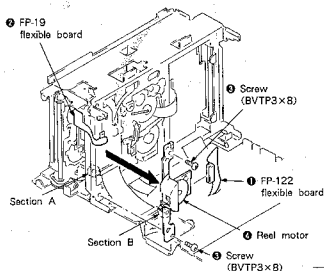
2.12. OPENING THE SE-7P BOARD

- 1) Remove the two screws ①.
- 2) Remove the nylon rivet ② and core shield plate ③.
- 3) Open the HK-3 board as described in 2-11.
- 4) Remove the three screws ④.
- 5) Open the SE-7P board ⑤ in the direction of the arrow.



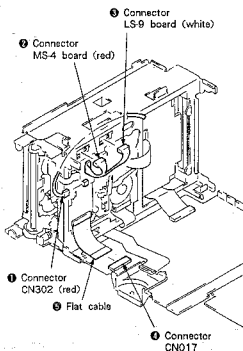
2.13. REMOVAL OF REEL MOTOR

- 1) Remove the FP-122 flexible board ①.
- 2) Remove the FP-19 flexible board ②.
- 3) Remove the two screws ③.
- 4) Insert a minus screwdriver at section A and disengage protrusion at section B.
- 5) Remove the reel motor ④ in the direction of the arrow.

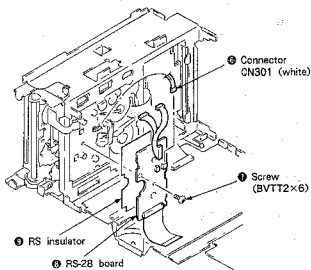


2.14. REMOVAL OF THE RS-28 BOARD

- 1) Remove the connector (CN302) ①.
- 2) Remove the connectors (MS-4 board, red) ②, (LS-9 board, white) ③.
- 3) Disconnect the flat cable ④ from the connector (CN017) ⑤.



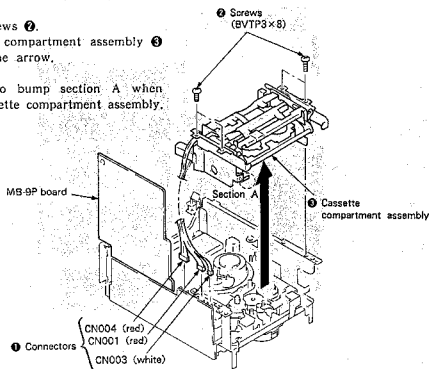
- 4) Remove the connector (CN301) ⑥.
- 5) Remove the screw ⑦.
- 6) Remove the RS-28 board ⑧ and the RS insulator ⑨.



2.15. REMOVAL OF CASSETTE COMPARTMENT ASSEMBLY

- 1) Open the MB-9P board as described in 2-10.
- 2) Remove the three connectors (CN001, CN003, CN004) ①.
- 3) Remove the four screws ②.
- 4) Remove the cassette compartment assembly ③ in the direction of the arrow.

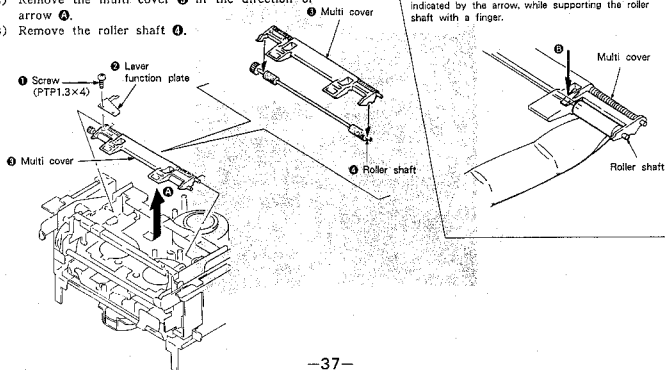
Note: Be careful not to bump section A when removing the cassette compartment assembly.



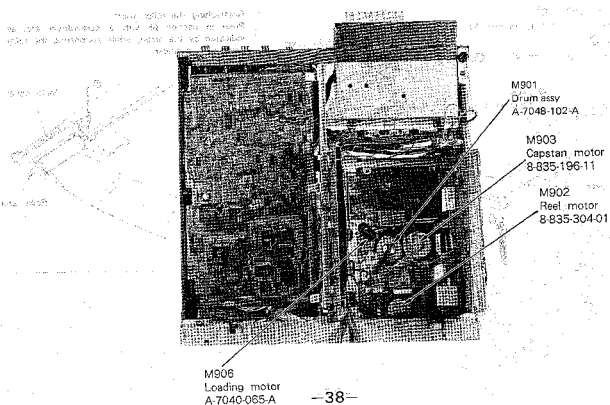
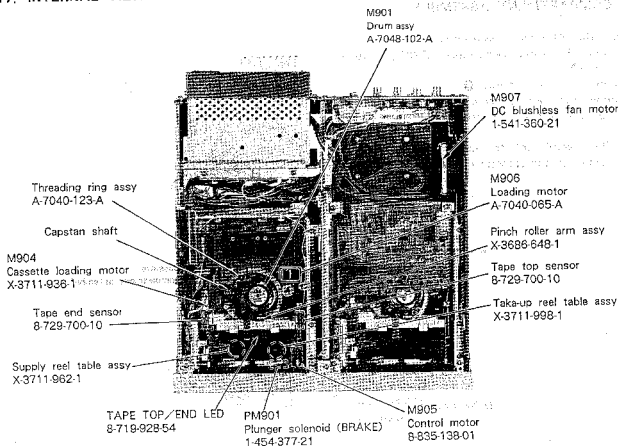
2.16. REMOVAL OF MULTI COVER AND ROLLER SHAFT

- 1) Remove the screw ①, and remove the lever function plate ②.
- 2) Remove the multi cover ③ in the direction of arrow ④.
- 3) Remove the roller shaft ⑤.

Reattaching the roller shaft:
Push in section ⑥ with a screwdriver etc. as indicated by the arrow, while supporting the roller shaft with a finger.



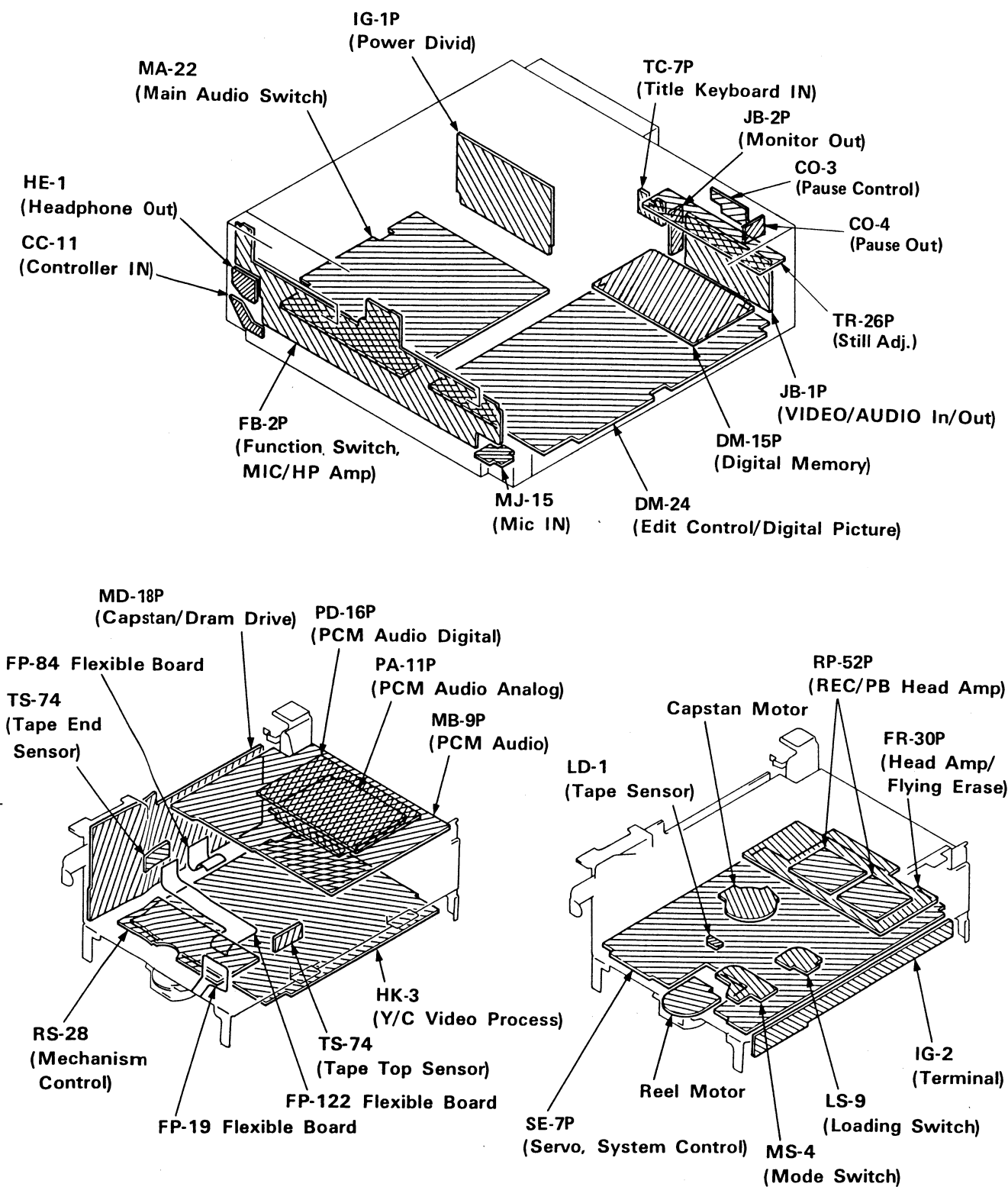
2.17. INTERNAL VIEW



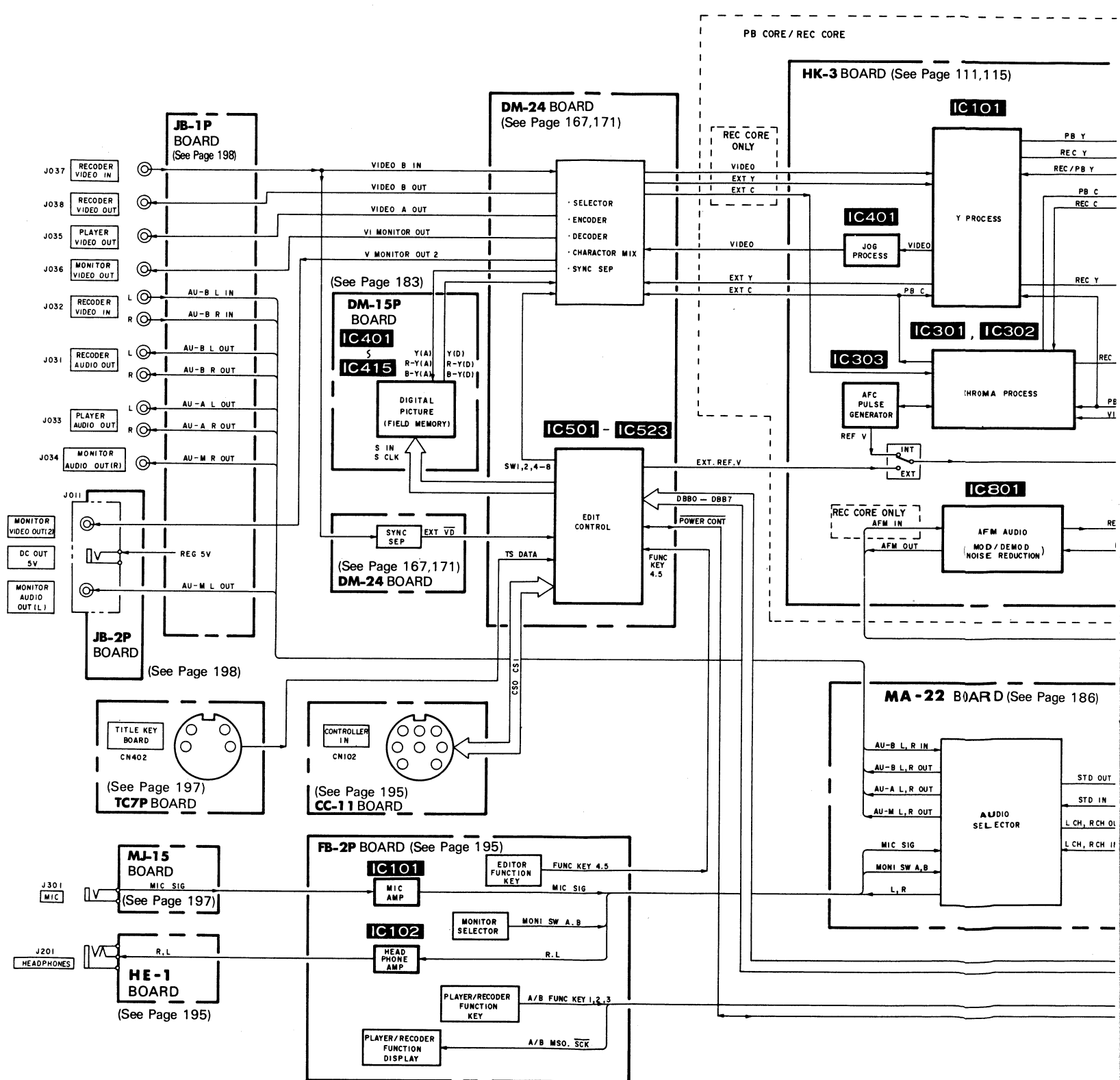
SECTION 3

DIAGRAMS

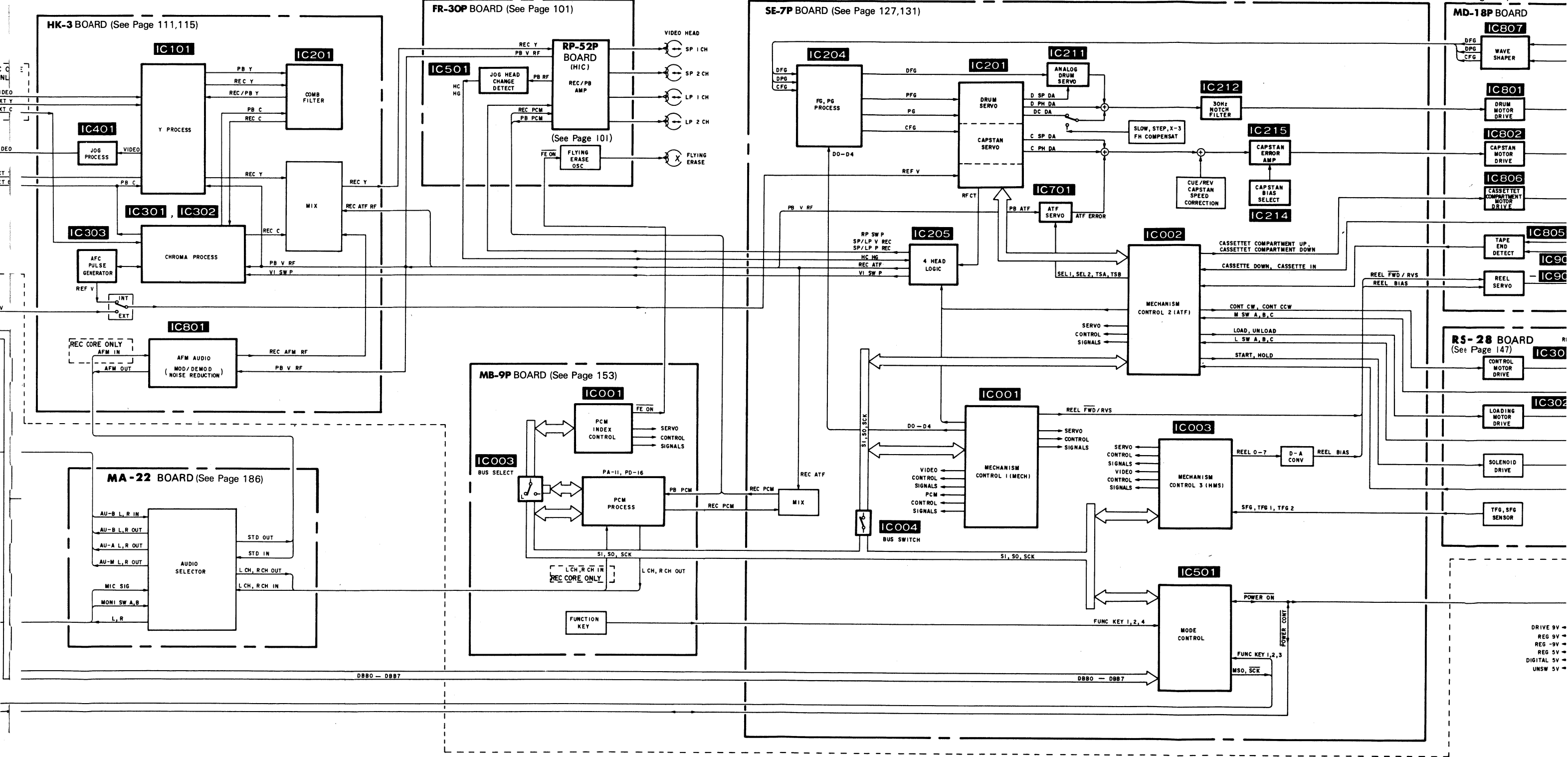
3-1. CIRCUIT BOARDS LOCATION

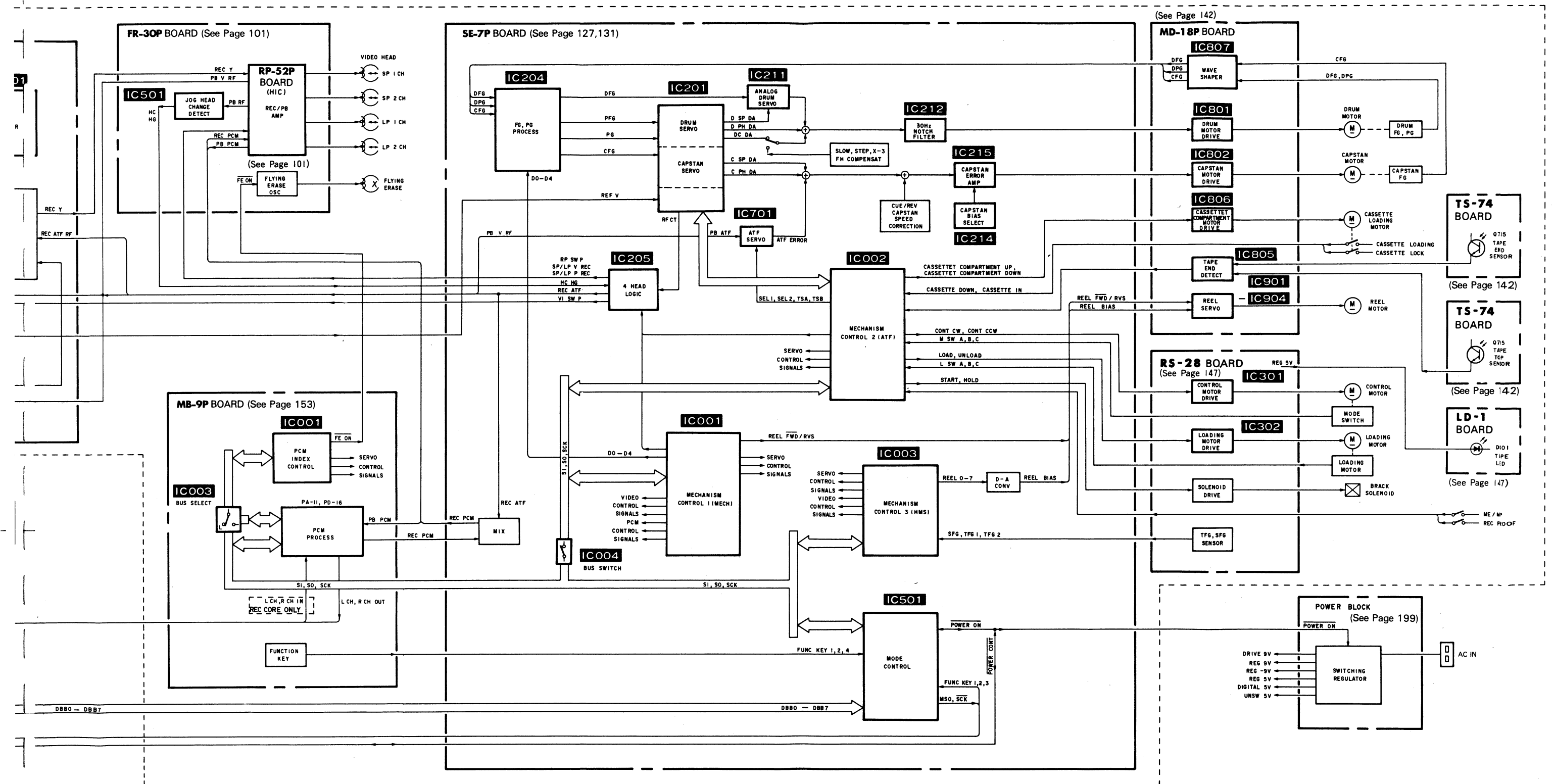


3-2. OVERALL BLOCK DIAGRAM

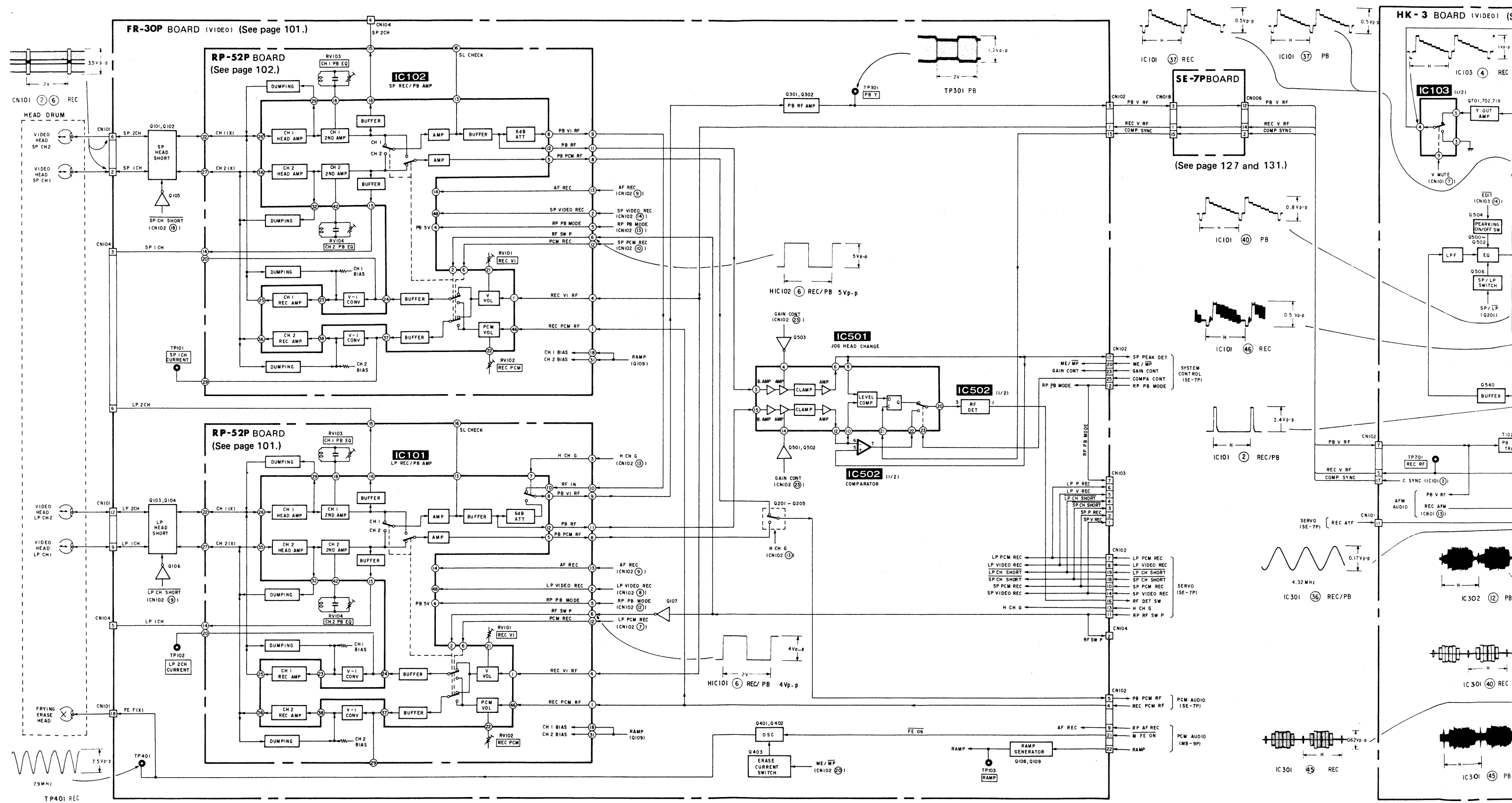


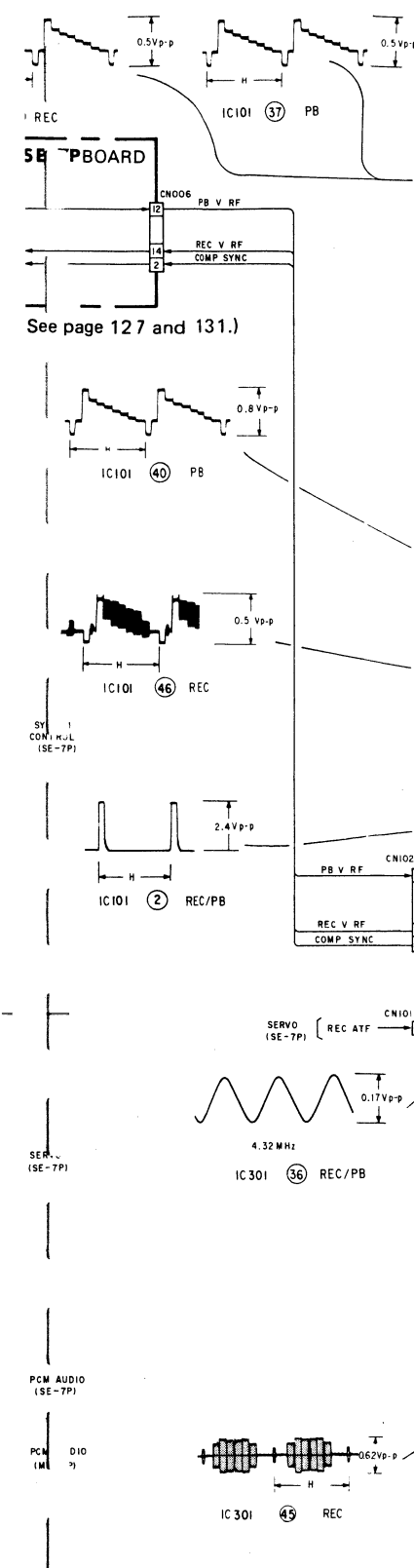
PB CORE / REC CORE



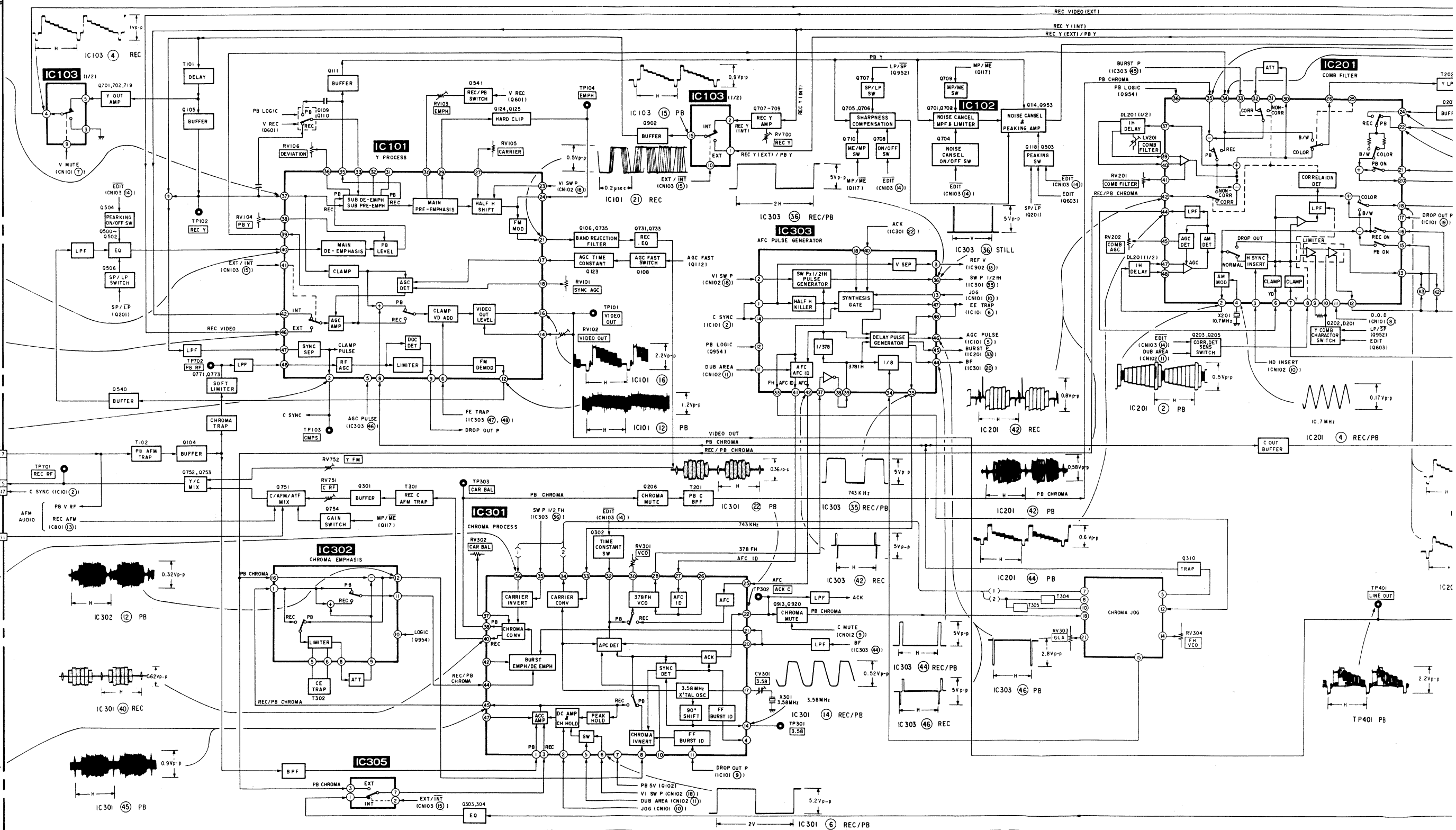


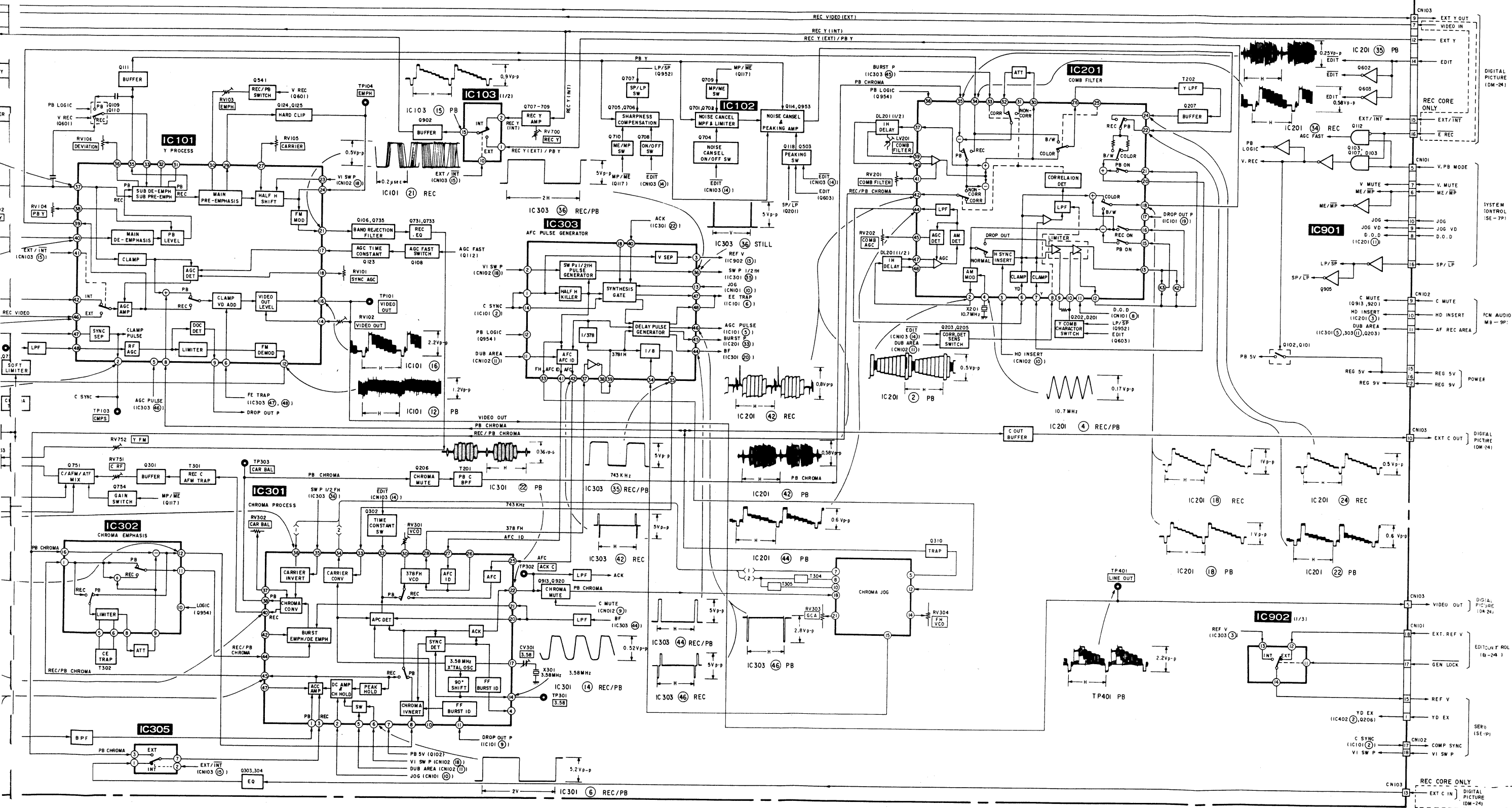
3-3. VIDEO BLOCK DIAGRAM



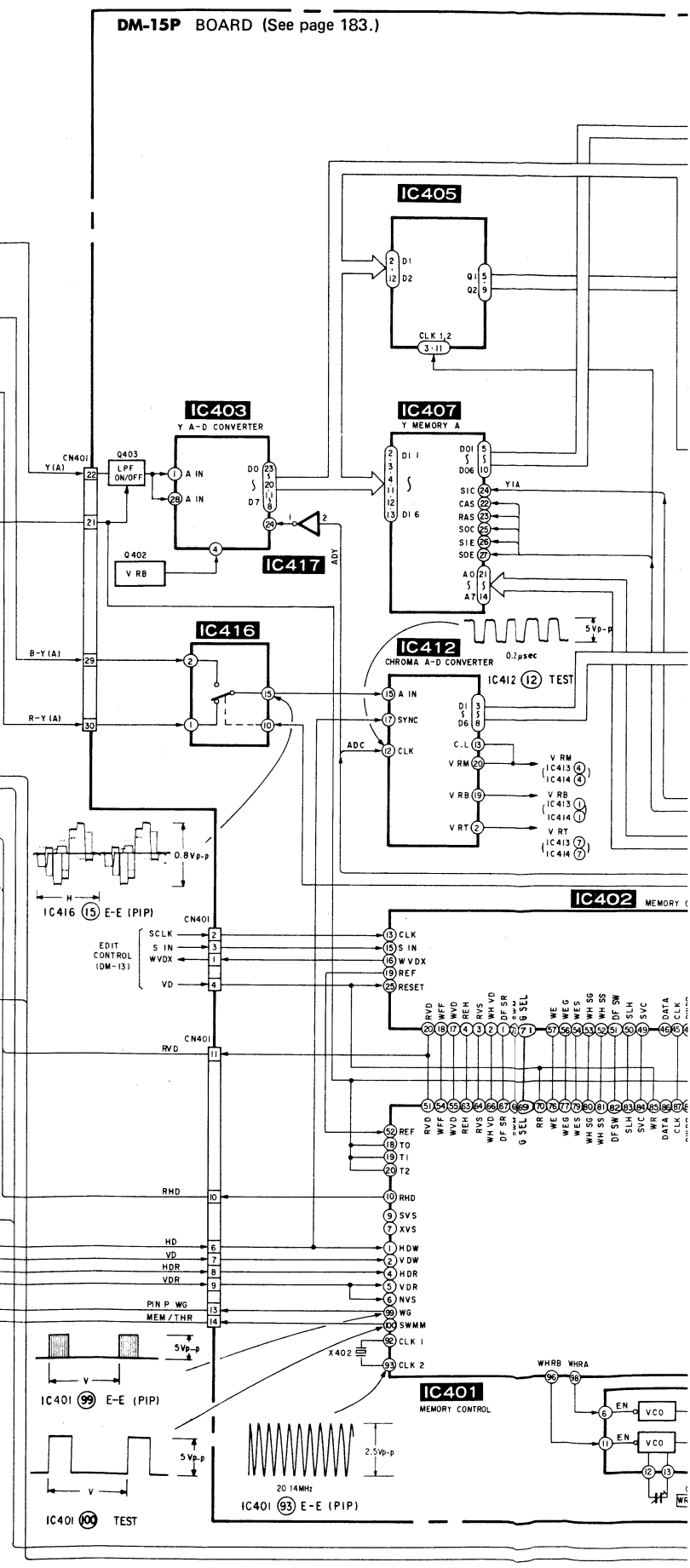
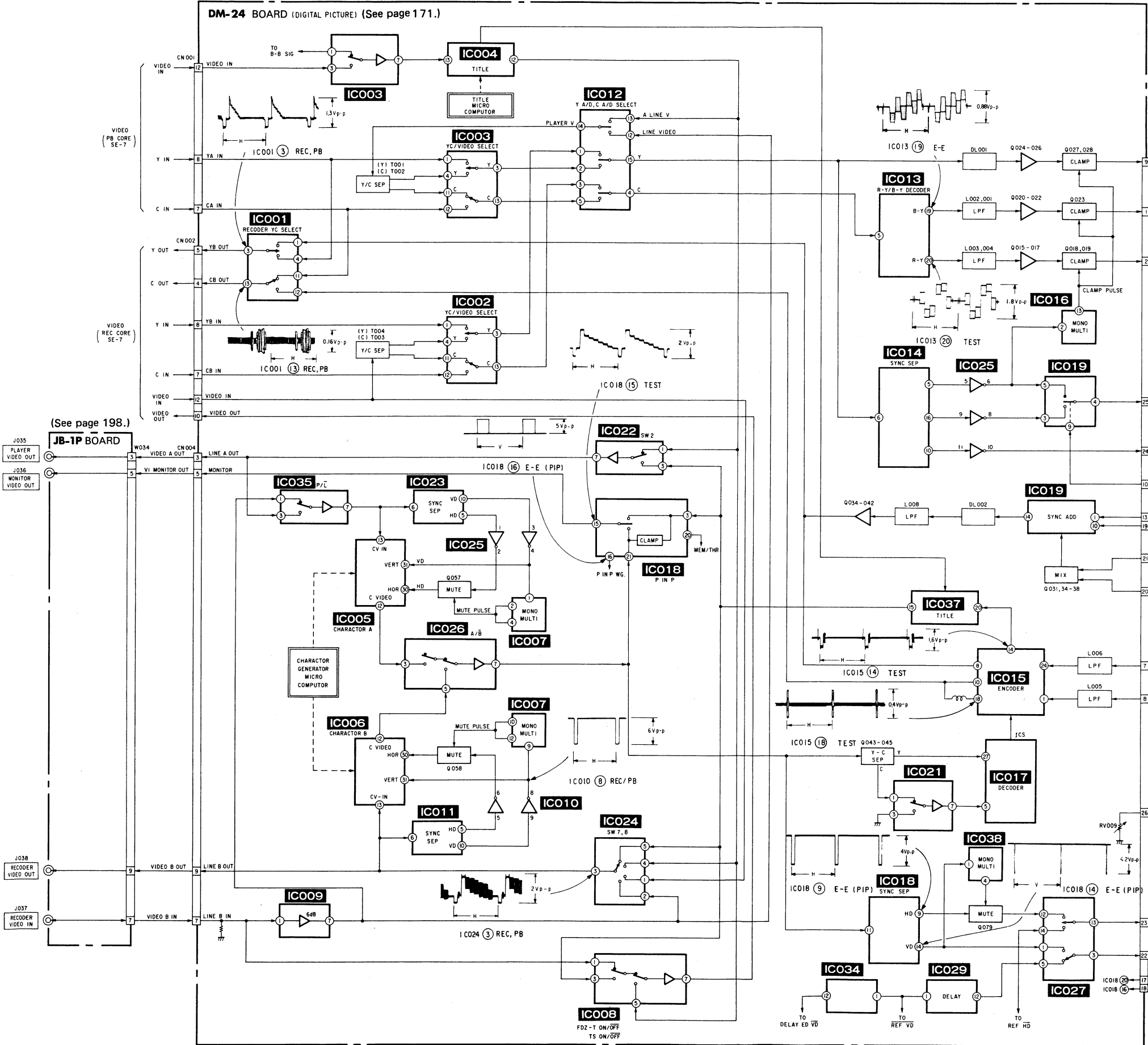


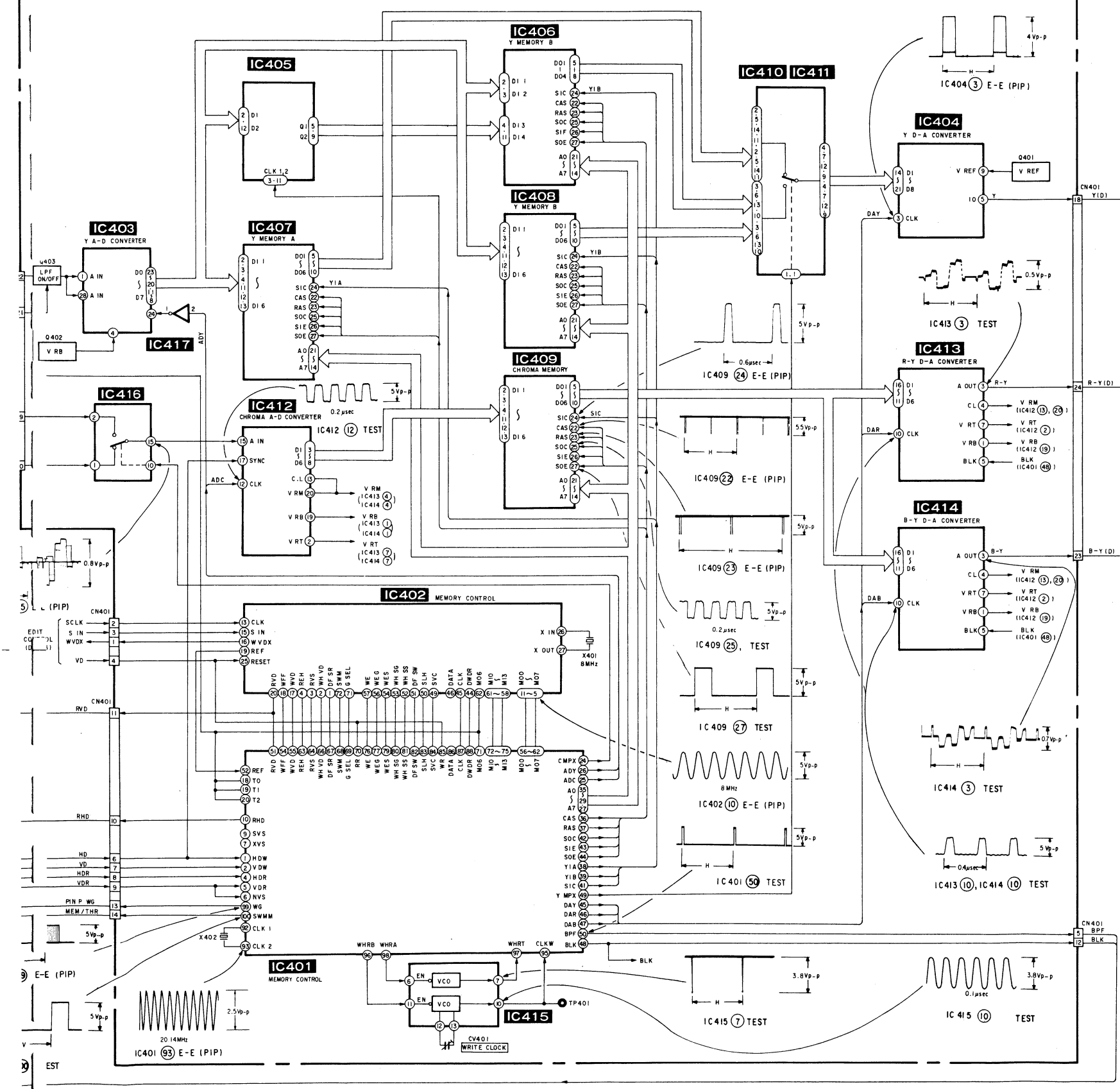
HK-3 BOARD (VIDEO) (See page 111 and 115.)

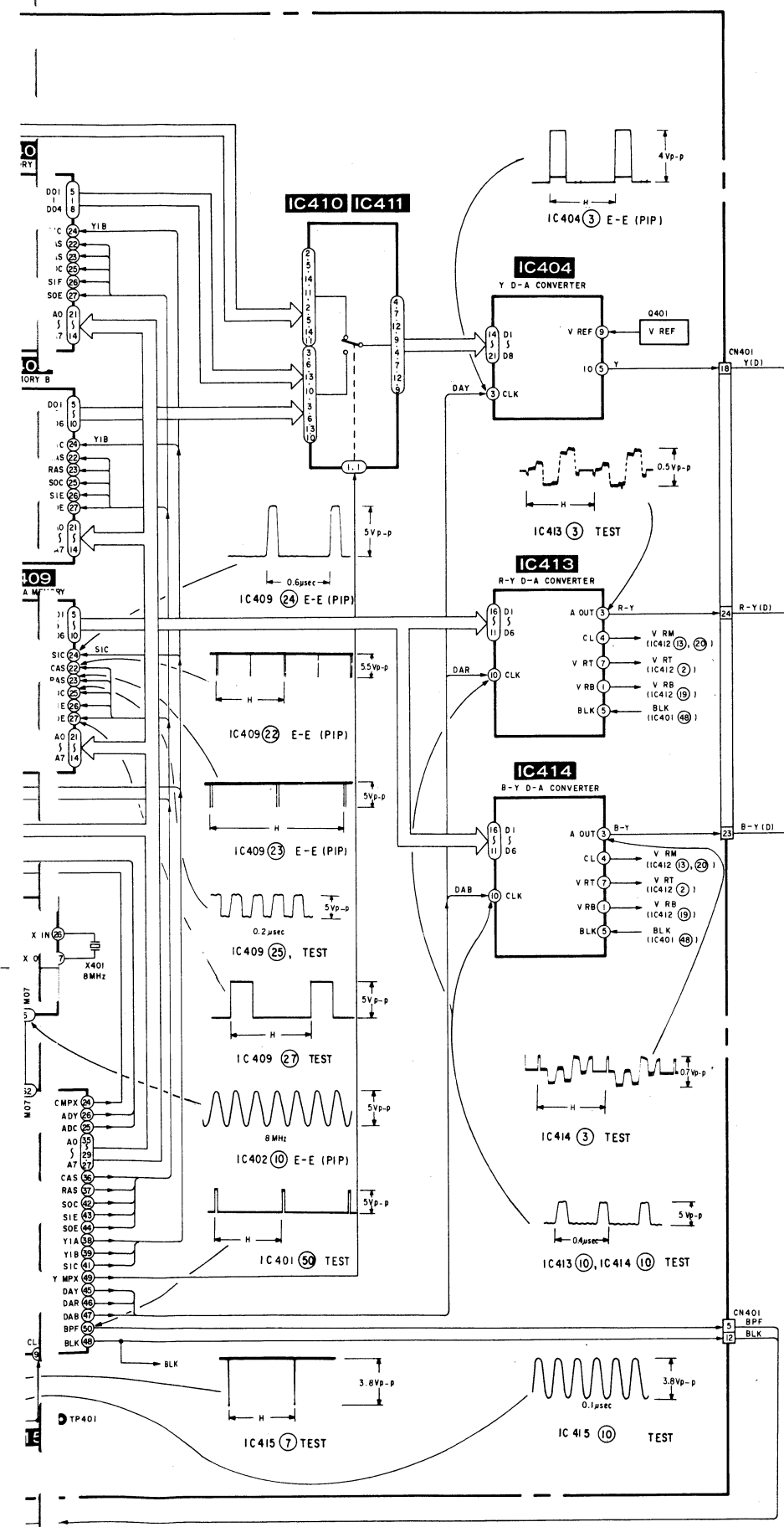




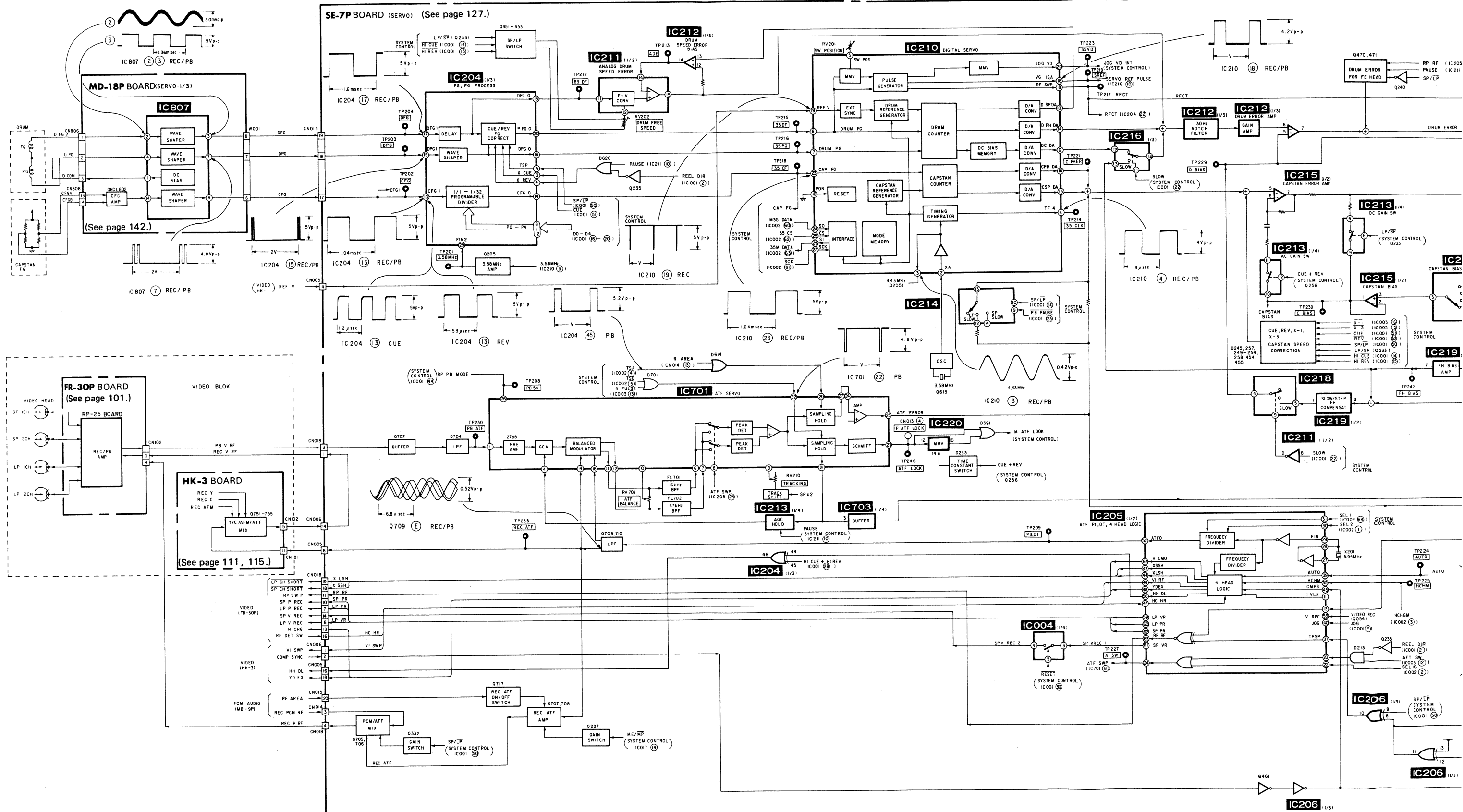
3.4. DIGITAL PICTURE BLOCK DIAGRAM

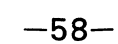
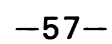






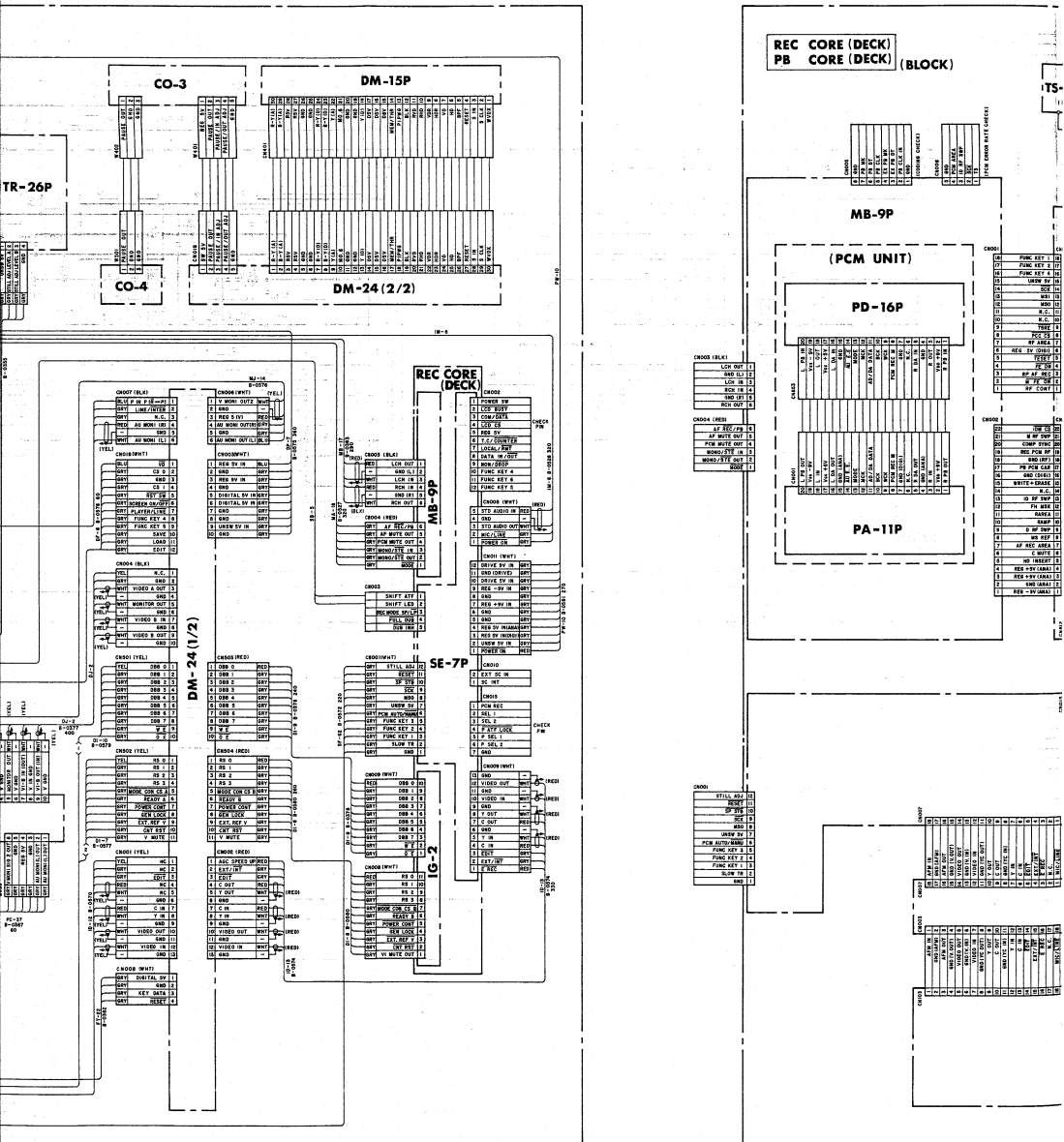
3-5. SERVO BLOCK DIAGRAM

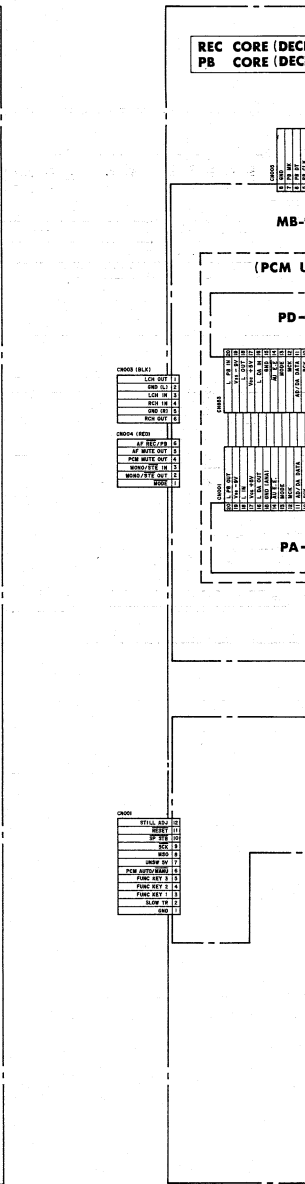
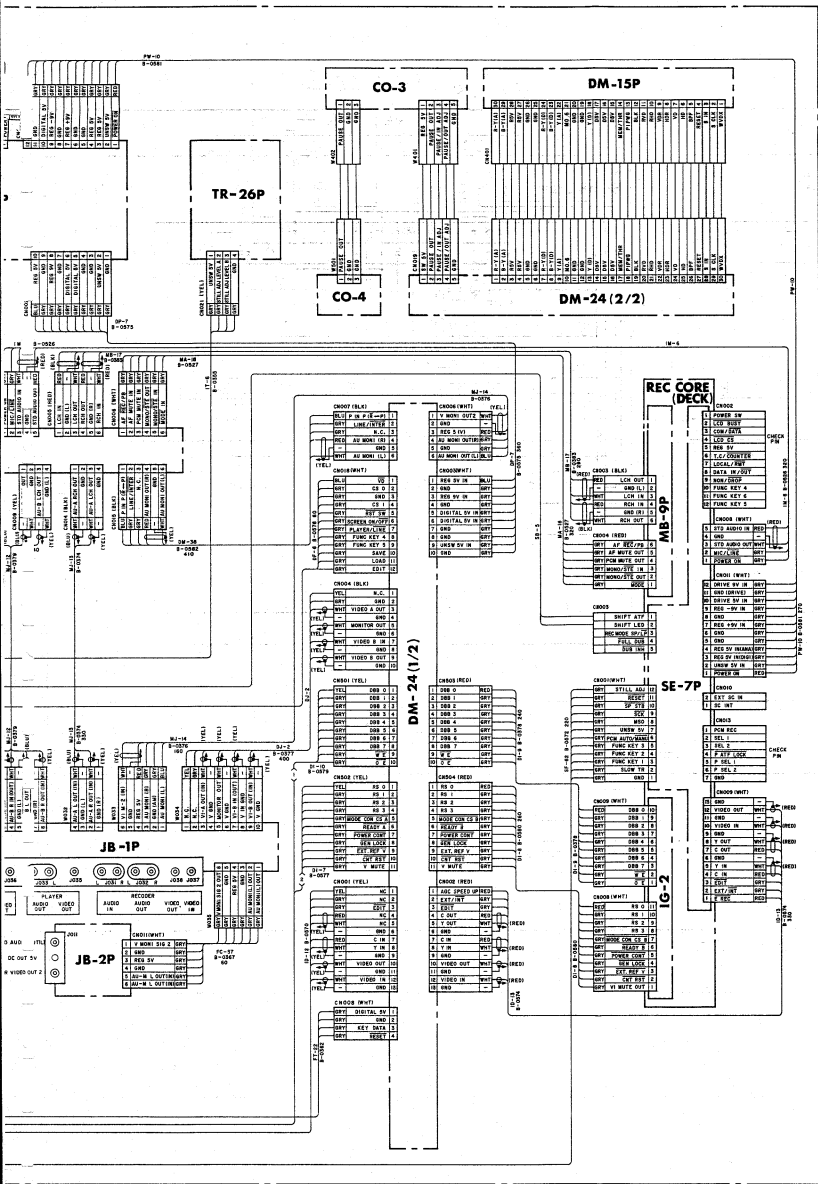




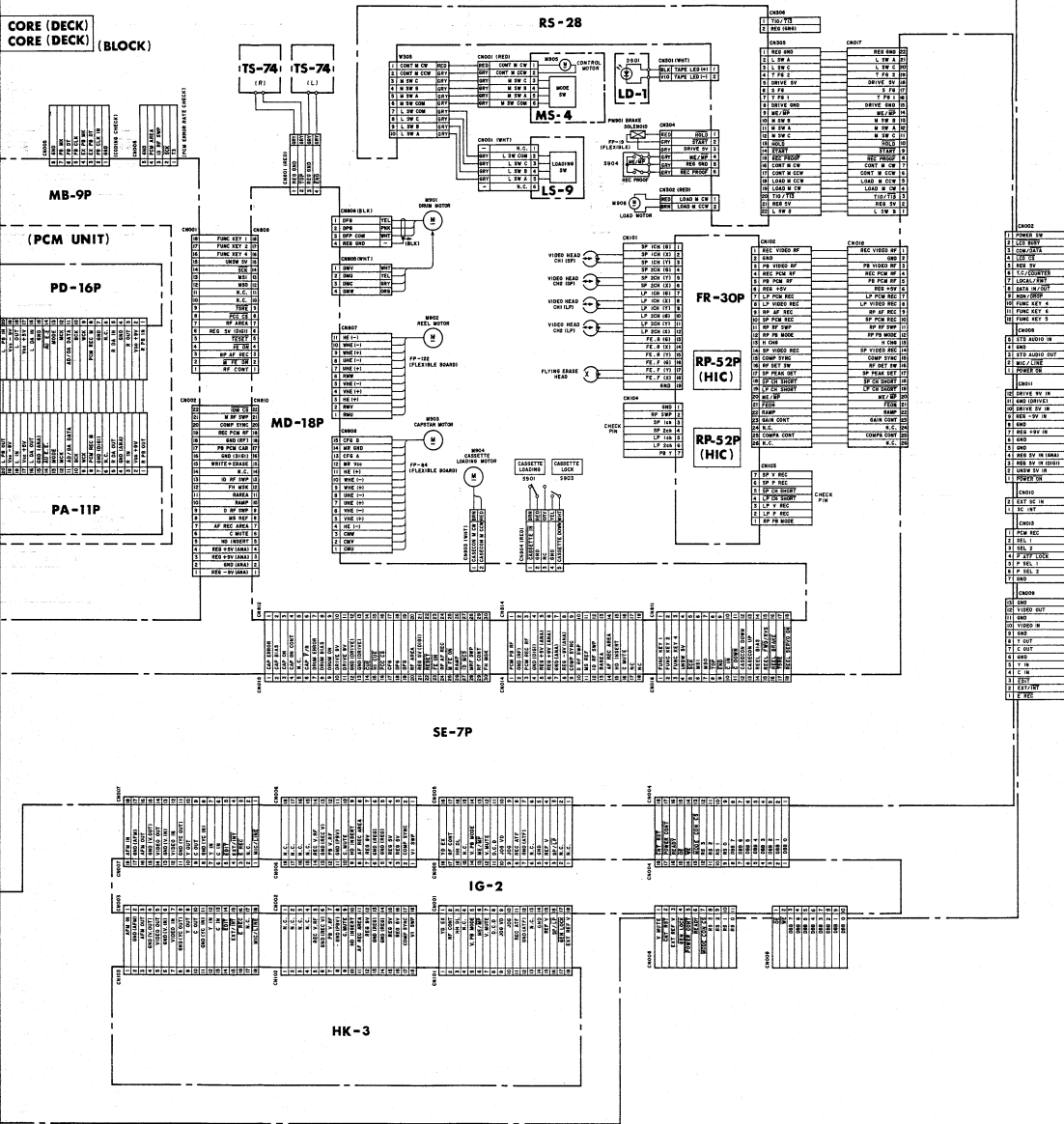
1	2	3	4	5	6	7	8	9	10	11	12
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CORE (DECK)
CORE (DECK) (BLOCK)



4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For printed wiring boards:

- — : Indicates a lead wire mounted on the component side.
- — : Indicates a lead wire mounted on the printed side.
- ▨ : Pattern from the side which enables seeing.
- : Circled numbers refer to waveforms.
- ⊗ : Through hole.
- ⊙ : Pattern of the rear side.

Caution:

Pattern face side: Parts on the pattern face side seen from (Conductor Side) the pattern face is indicated.
Parts face side: Parts on the parts face side seen from (Component Side) the pattern face is indicated.

For schematic diagram:

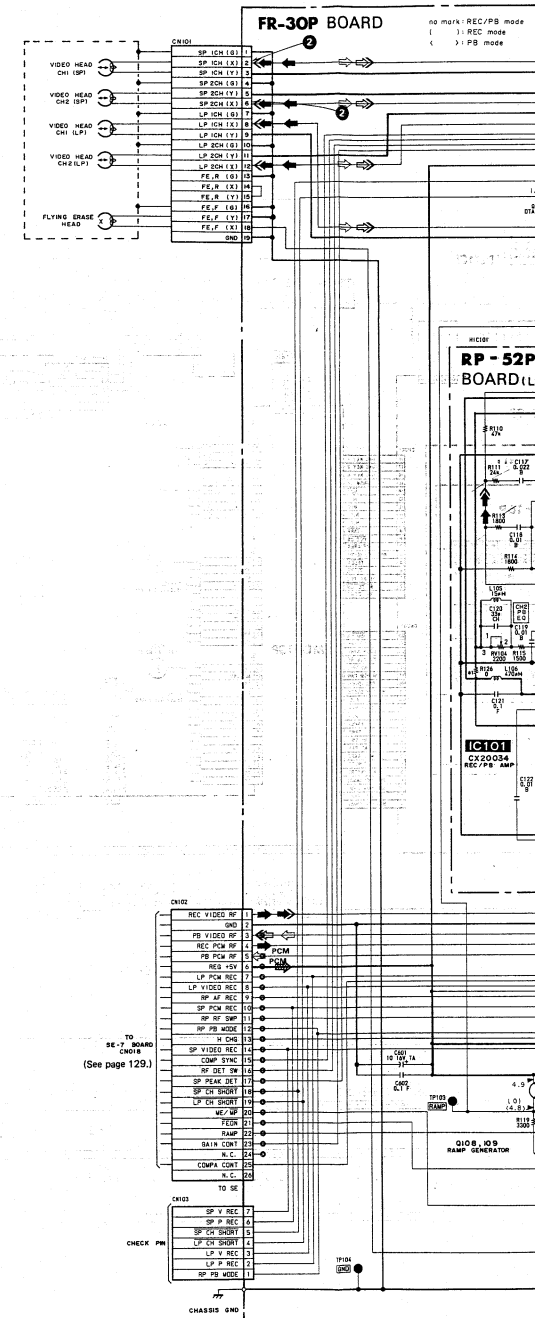
- Caution when replacing chip parts.
New parts must be attached after removal of chip.
Be careful not to heat the minus side of tantalum capacitor, because it is damaged by the heat.
- All resistors are in ohms, 1/4W (Chip resistors: 1/10W) unless otherwise noted.
kΩ: 1000Ω, MΩ: 1000kΩ.
- All capacitors are in μF unless otherwise noted. pF: μF 50V or less are not indicated except for electrolytics and tantalums.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : nonflammable resistor.
- : fusible resistor.
- : panel designation.
- : Internal component.
- : adjustment for repair.
- : B+ line.
- : B- line.
- Voltages are dc between measurement points and ground unless otherwise noted.
- Readings are taken with a color-bar signal input.
- Readings are taken with a digital multimeter (DC10MΩ).
- Voltage variations may be noted due to normal production tolerances.
- : IN/OUT direction of B line (+, -).
- : Impossible to measure the voltage at the marked points.
- Circled numbers refer to waveforms.

When indicating parts by reference number, please include the board name.

Note: The components identified by mark or dotted line with mark are critical for safety.
Replace only with part number specified.

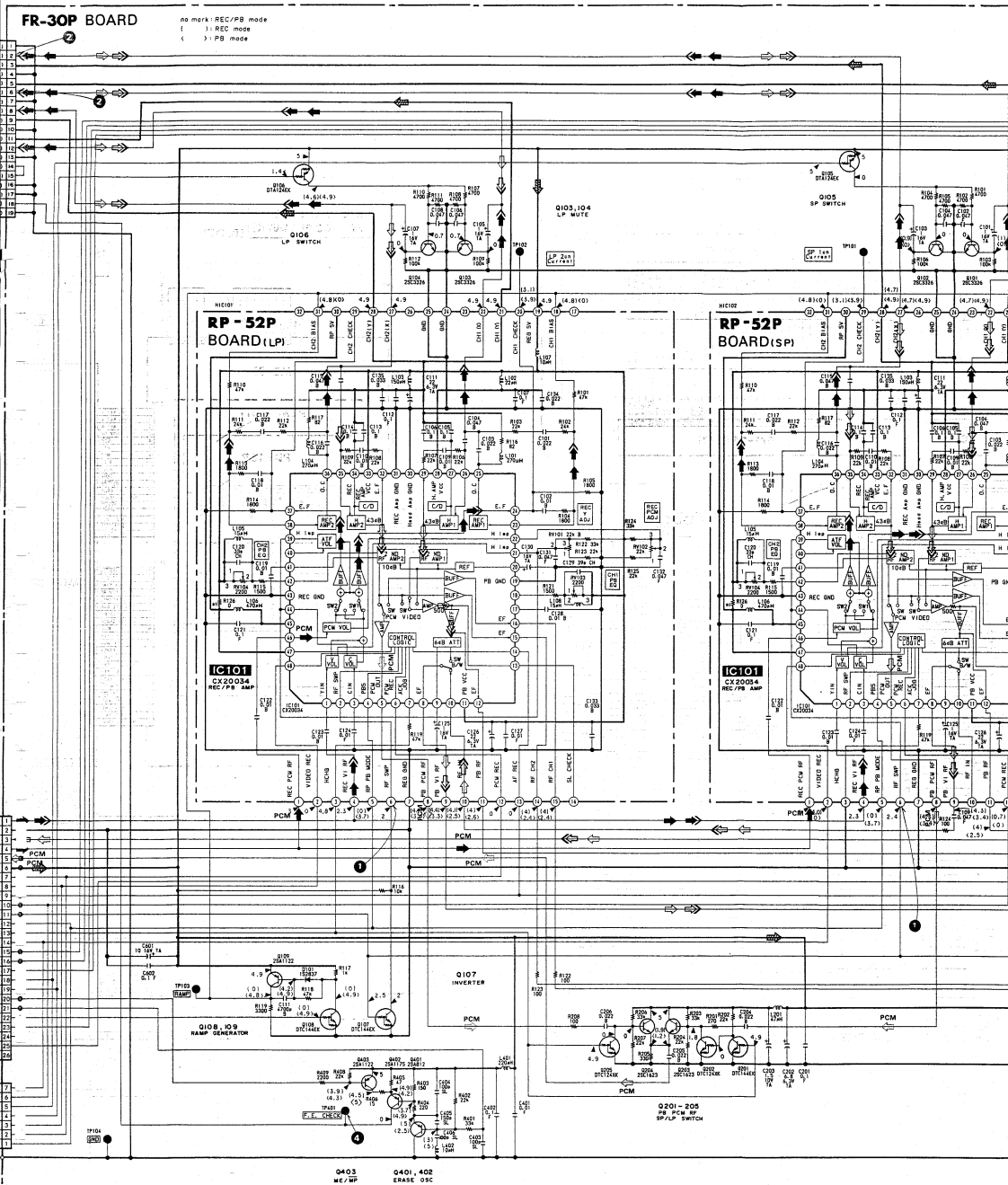
FR-30P (HEAD AMP/FLYING ERASE), RP-52P (REC/PB HEAD AMP) SCHEMATIC DIAGRAM
- Ref. No. FR-30P BOARD: 1,000 series, RP-52P BOARD: 10,000 series -

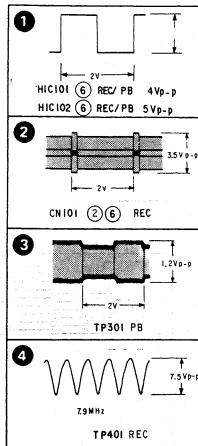
REC/PB DECK

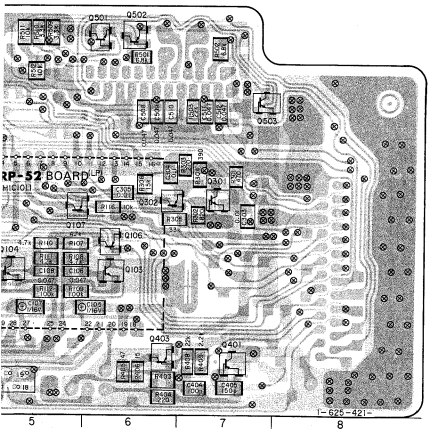
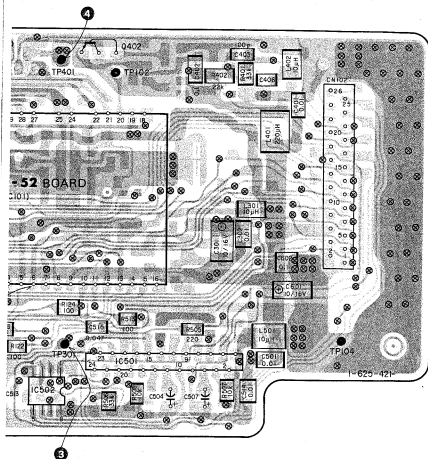


```
no mark: REC/PB mode
( ) : REC mode
< > : PB mode
```

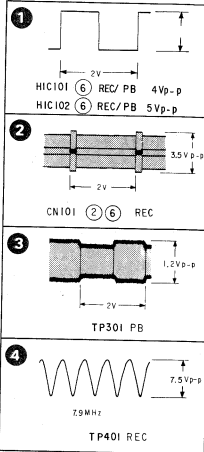








FR-30P BOARD



AD AMP/FLYING ERASE), RP-52P (REC/PB HEAD AMP) PRINTED WIRING BOARDS

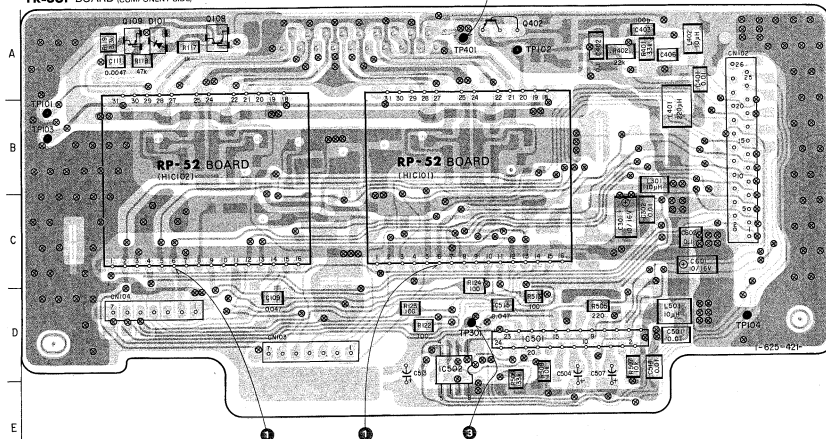
R-30P BOARD: 1,000 series, RP-52P BOARD: 10,000 series --

B DECK

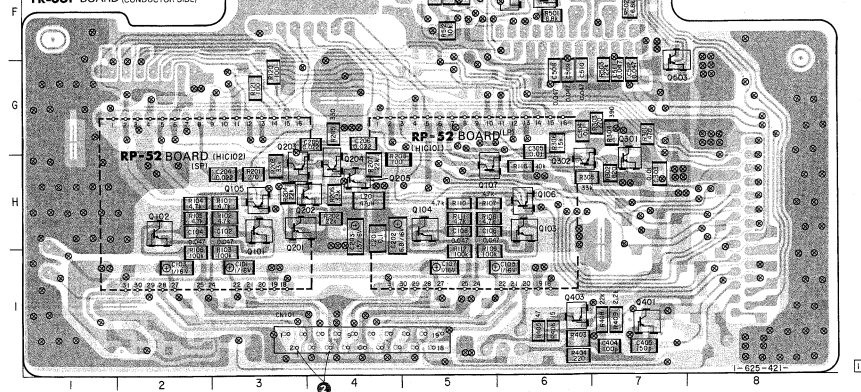
FR-30P BOARD

CN101 I-3
 CN102 A-5
 CN103 D-3
 CN104 D-2
 D101 A-2
 IC501 D-6
 IC502 D-5
 Q101 H-3
 Q102 H-2
 Q103 H-6
 Q104 H-5
 Q105 H-3
 Q106 H-6
 Q107 H-5
 Q108 A-3
 Q109 A-2
 Q201 H-3
 Q202 H-3
 Q203 G-3
 Q204 H-4
 Q205 H-4
 Q301 G-7
 Q302 H-6
 Q401 A-7
 Q402 A-6
 Q403 H-6
 Q501 F-6
 Q502 F-6
 Q503 G-7
 TP101 B-1
 TP102 A-6
 TP103 B-1
 TP104 D-8
 TP201 D-5
 TP401 A-5

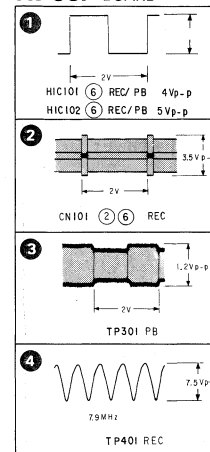
FR-30P BOARD (COMPONENT SIDE)

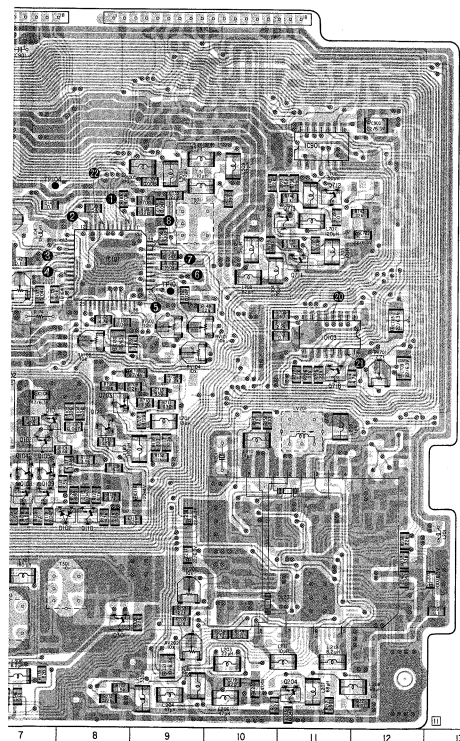


FR-30P BOARD (CONDUCTOR SIDE)

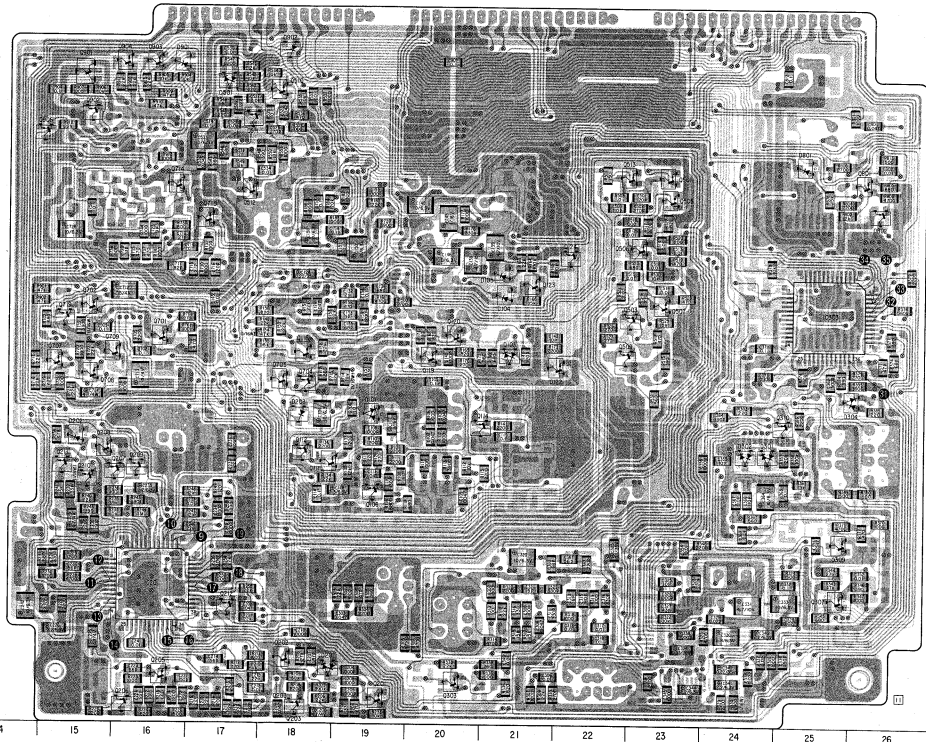


FR-30P BOARD





HK-3 BOARD (CONDUCTOR SIDE)



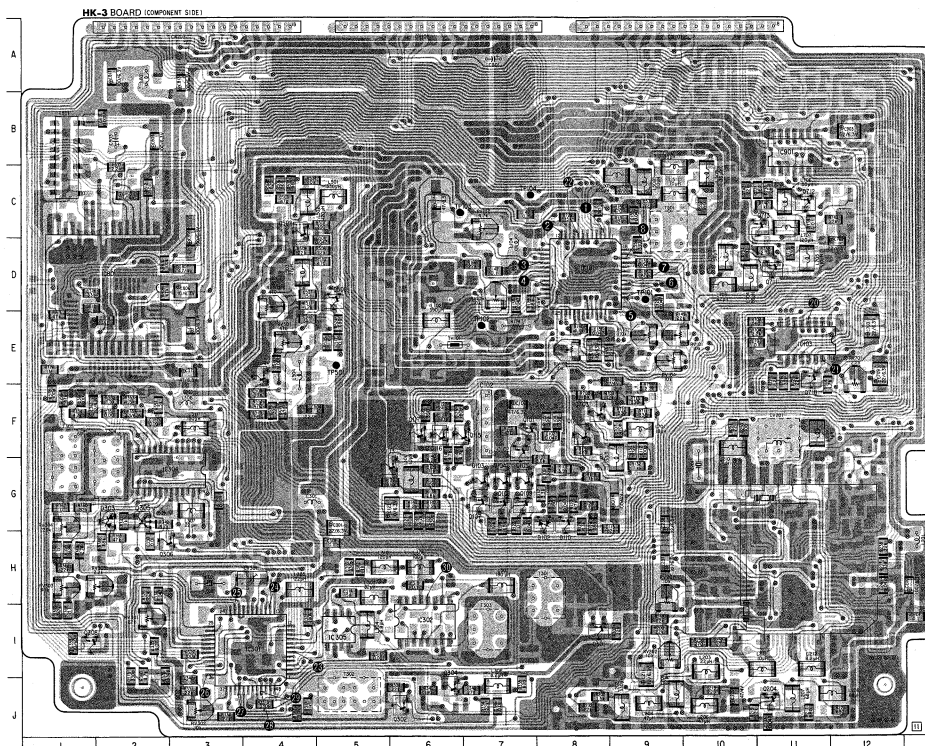
HK-3 (Y/C VIDEO PROCESS) PRINTED WIRING BOARD

Ref. No. HK-3 BOARD: 2,000 series -

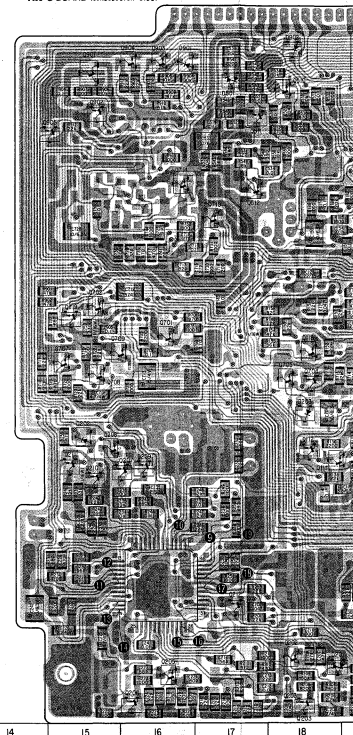
REC/PB DECK

HK-3 BOARD

N101	A-9	Q501	C-23
N102	A-6	Q502	C-4
N103	A-3	Q503	E-23
		Q504	E-4
CV301	H-4	Q505	C-23
		Q506	D-23
101	F-19	Q507	E-23
102	G-8	Q508	D-5
103	E-21	Q509	E-22
D104	D-21	Q510	B-18
D105	D-21	Q511	B-17
D201	F-18	Q512	C-17
202	F-15	Q513	C-22
303	F-18	Q701	E-16
301	F-24	Q702	E-15
D302	G-24	Q703	F-8
D303	G-2	Q704	F-18
304	F-26	Q705	F-18
301	F-17	Q707	E-15
801	C-25	Q708	F-15
301	A-16	Q709	E-15
D902	A-18	Q710	C-17
		Q711	D-11
T101	D-8	Q712	C-11
I102	E-7	Q713	C-11
I103	E-11	Q714	B-16
A201	H-16	Q718	E-11
IC301	I-4	Q719	E-15
IC302	I-6	Q801	C-25
303	E-25	Q802	C-25
304	G-3	Q901	A-15
305	I-5	Q902	B-15
IC301	D-2	Q903	A-16
IC301	I-11	Q904	A-16
		Q905	B-15
Z201	F-11		
		RV101	E-9
101	F-7	RV102	E-9
Q102	F-7	RV103	E-8
Q103	G-7	RV104	E-9
104	G-7	RV106	D-7
105	G-7	RV107	C-7
106	G-19	RV201	H-9
107	G-7	RV202	I-9
Q108	G-7	RV301	I-2
Q109	G-7	RV302	J-3
110	G-8	RV303	H-1
111	G-18	RV304	G-1
112	G-18	RV305	H-2
Q113	G-5	RV501	A-4
Q114	F-20	RV502	D-4
O115	F-7	RV701	E-12
116	F-6		
117	F-6	TP101	D-9
118	E-18	TP102	F-7
Q119	E-20	TP103	C-6
Q120	E-20	TP104	C-7
121	F-8	TP301	E-5
122	E-21		
123	E-21		
124	D-22		
Q201	I-19		
Q202	I-18		
303	J-18		
304	I-11		
305	J-16		
Q306	J-16		
Q307	G-16		
Q308	G-15		
Q309	G-16		
110	G-15		
111	G-15		
Q212	I-17		
Q301	I-18		
Q302	J-6		
303	J-20		
304	J-6		
305	G-2		
Q306	J-12		
Q307	I-25		
308	I-1		
309	H-25		
110	F-25		

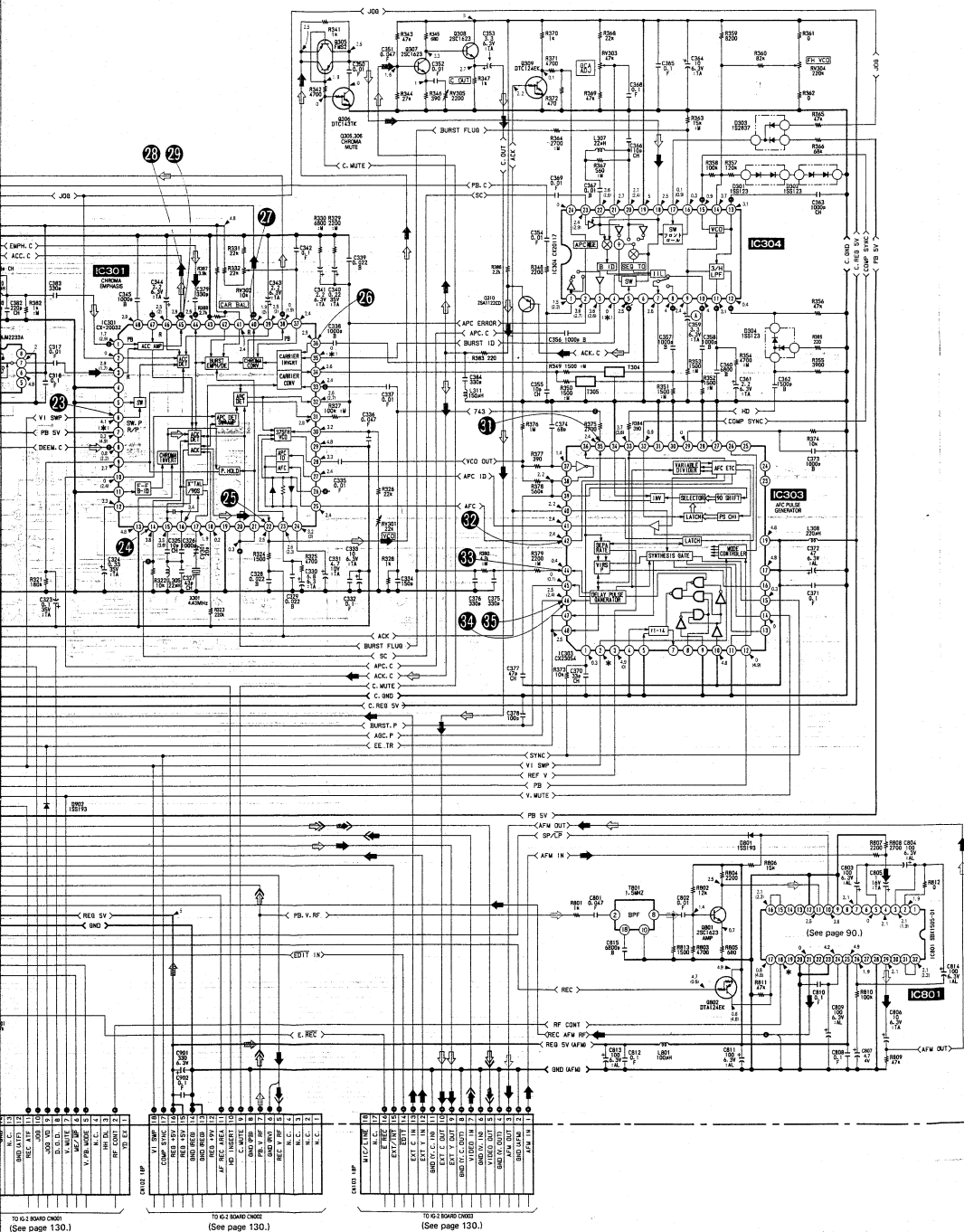


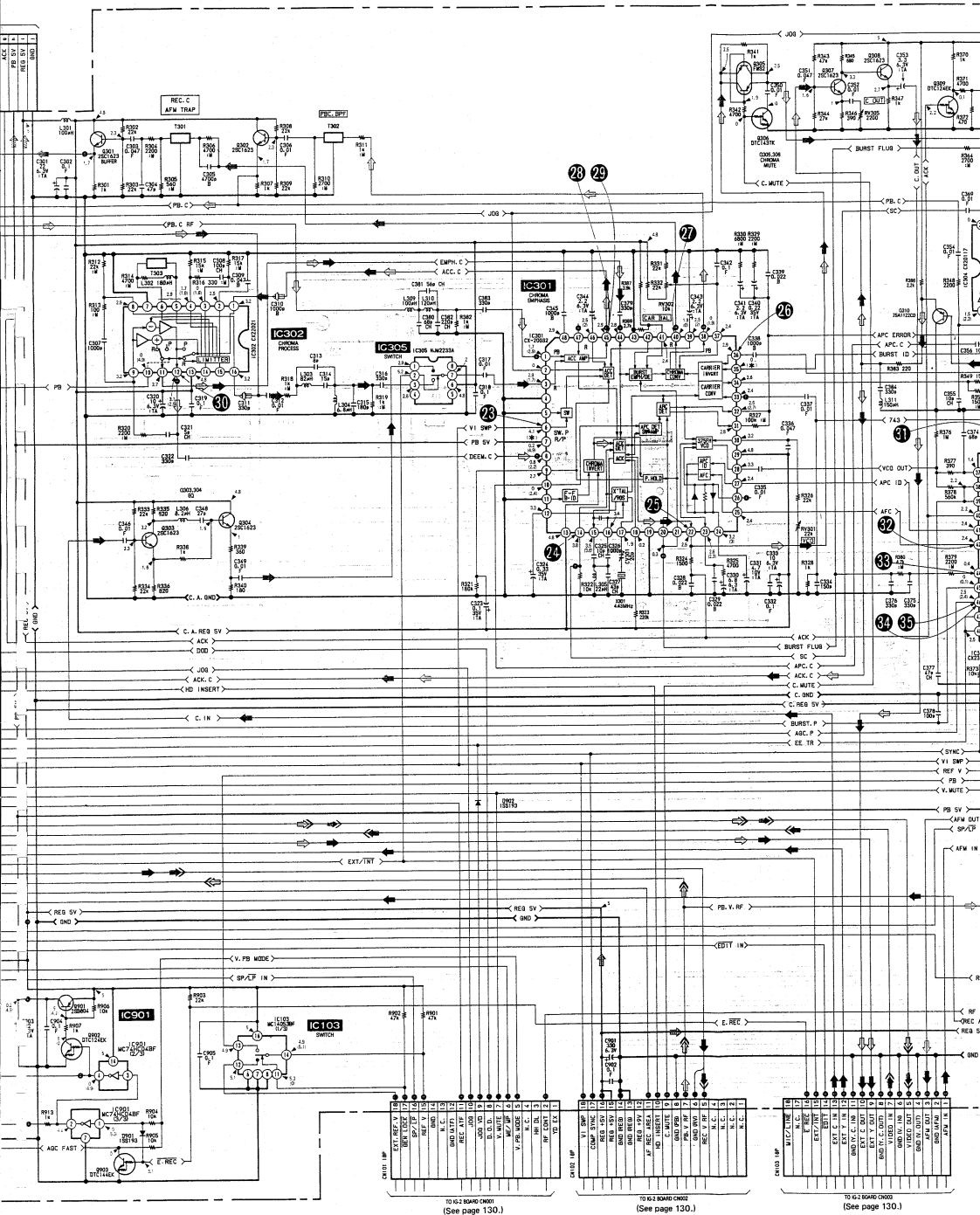
HK-3 BOARD (CONDUCTOR SIDE)



TO HL-3 BOARD (1/2) (See page 116.)

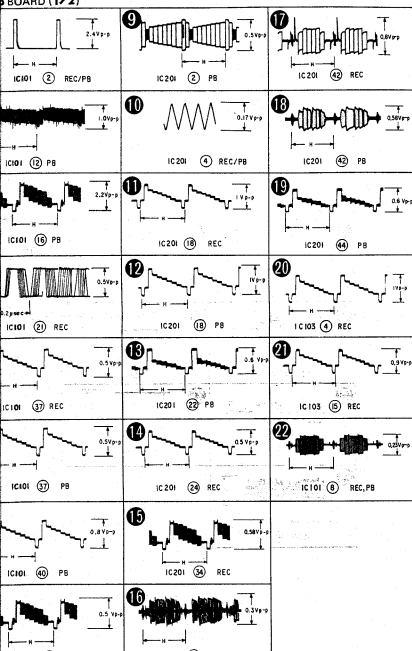
TO IG-2 BOARD CN001
(See page 130.)







BOARD (1/2)

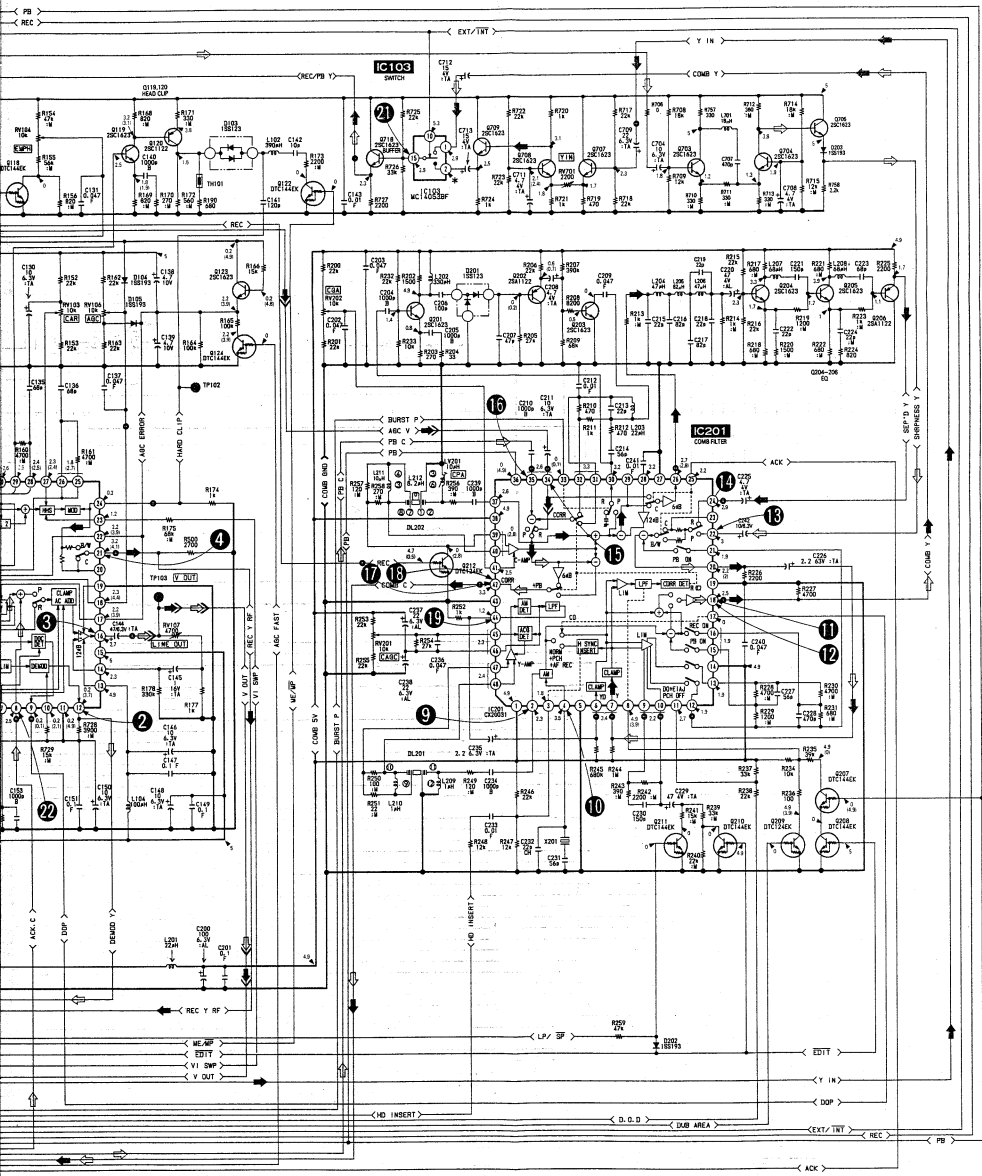


- ➡➡ : REC Y/CHROMA Signal
- ⇨⇨ : PB Y/CHROMA Signal
- ➡ : REC Y Signal
- ⇨ : PB Y Signal
- ➡➡ : REC CHROMA Signal
- ⇨⇨ : PB CHROMA Signal

[illegible]

P Q R S T U V W X Y Z . .





-7P (SERVO) AND IG-2 (TERMINAL) PRINTED WIRING BOARDS

Ref. No. SE-7P BOARD: 3,000 and IG-2 BOARD: 3,100 series -

SE-7P BOARD

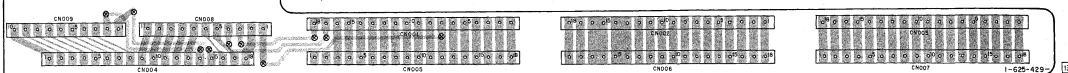
CN001 F-2
 CN002 A-1
 CN003 B-2
 CN004 A-2
 CN005 A-5
 CN006 A-8
 CN007 A-11
 CN008 B-15
 CN009 C-15
 CN010 F-15
 CN011 F-15
 CN013 F-15
 CN014 H-10
 CN015 F-15
 CN016 F-12
 CN017 G-27
 CN018 H-18
 DN01 E-23
 DN08 B-21
 DN11 F-20
 DN12 C-21
 DN13 F-6
 DN17 B-19
 DN24 D-24
 DN21 F-12
 DN22 G-9
 DN23 C-11
 DN30 C-11
 DN41 D-9
 DN42 D-8
 DN42 A-7
 DN43 A-7
 DN47 F-11
 DN48 B-7
 DN51 G-22
 DN62 E-7
 DN63 D-7
 DN64 B-20
 DN620 B-21
 DN701 C-12
 IC001 E-5
 IC002 H-2
 IC003 H-4
 IC004 C-25
 IC005 E-4
 IC201 H-7
 IC202 B-12
 IC204 B-8
 IC205 H-10
 IC206 H-8
 IC210 F-7
 IC211 E-9
 IC212 F-9
 IC213 B-18
 IC214 B-19
 IC215 B-13
 IC216 E-10
 IC217 G-12
 IC218 D-17
 IC219 F-13
 IC220 C-18
 IC401 G-22
 IC402 H-6
 IC501 B-5
 IC502 B-24
 IC701 D-13
 IC703 C-18
 Q054 C-6
 Q091 G-23
 Q091 G-23
 Q095 A-21
 Q227 H-21
 Q229 C-6
 Q230 D-22
 Q231 D-24
 Q233 E-8
 Q235 E-21
 Q238 D-22
 Q240 D-11
 Q242 C-7
 Q243 F-16
 Q244 D-11
 Q245 D-6
 Q249 D-21
 Q250 D-21
 Q251 D-6
 Q252 D-20
 Q253 E-21
 Q254 E-6
 Q256 C-21
 Q257 D-21
 Q258 E-21
 Q332 H-21

Q451 D-19
 Q452 D-10
 Q453 D-19
 Q454 D-8
 Q455 D-21
 Q461 I-20
 Q462 F-16
 Q463 F-16
 Q470 E-10
 Q471 F-11
 Q488 C-7
 Q501 B-26
 Q611 E-6
 Q614 C-8
 Q620 B-21
 Q621 D-11
 Q702 C-12
 Q704 E-17
 Q705 I-22
 Q706 I-21
 Q707 F-20
 Q708 I-21
 Q709 C-16
 Q710 D-16
 Q717 I-7
 RV201 F-8
 RV202 C-10
 RV203 E-12
 RV204 E-12
 RV205 A-11
 RV206 B-10
 RV208 B-10
 RV210 E-13
 RV212 I-13
 RV215 E-12
 RV216 E-12
 RV217 D-11
 RV218 D-11
 RV401 G-7
 RV701 C-13

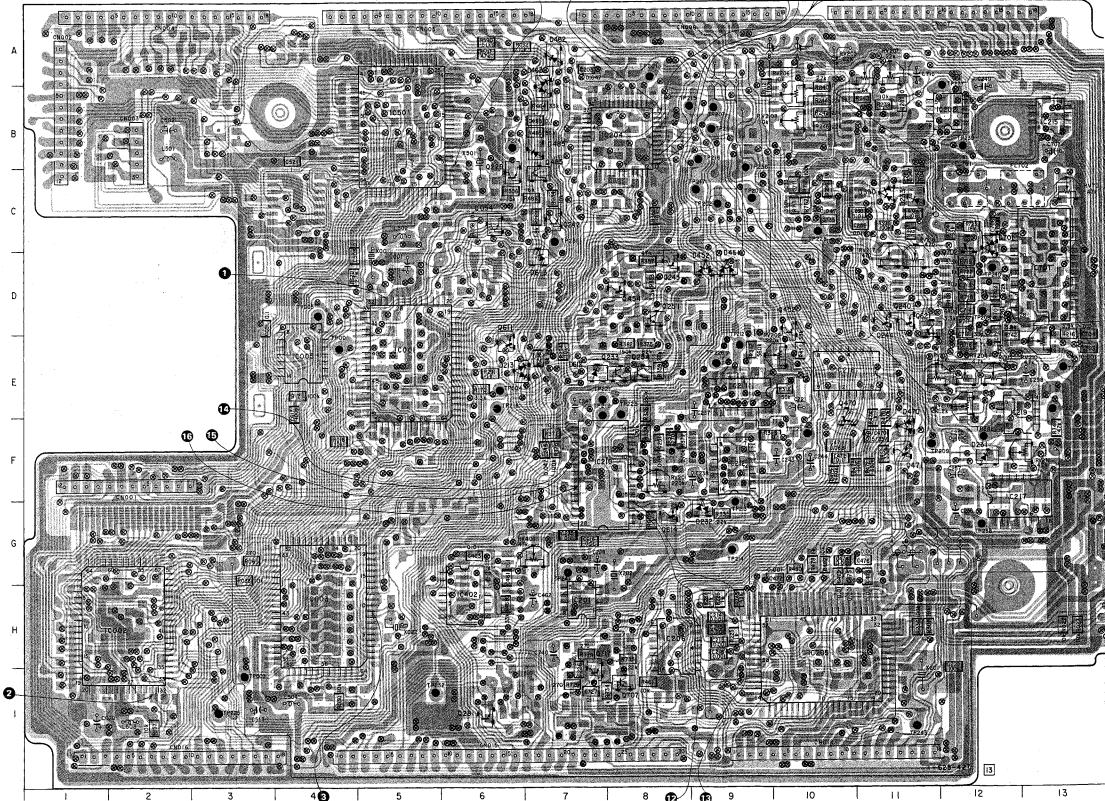
TP001 E-4/E-24
 TP003 I-31/25
 TP004 E-6/E-22
 TP005 D-4/D-25
 TP001 A-8/A-20
 TP202 C-9/C-20
 TP203 C-9/C-19
 TP204 B-9/B-20
 TP207 B-9/B-20
 TP208 D-12/D-16
 TP209 F-11/F-17
 TP212 E-9/E-19
 TP213 G-9/G-19
 TP214 G-9
 TP215 B-9/B-20
 TP216 B-9/B-20
 TP217 F-9/C-20
 TP218 E-6/E-22
 TP219 E-7/E-21
 TP221 E-7/E-21
 TP223 E-6/E-21
 TP223 I-31/26
 TP227 E-13/E-16
 TP228 C-10/C-18
 TP229 F-10/F-19
 TP230 E-13/E-15
 TP231 C-7/C-22
 TP232 I-5/E-23
 TP236 C-9/C-19
 TP237 B-12/B-17
 TP238 G-12/G-16
 TP239 B-12/B-17
 TP240 D-12/D-16
 TP242 F-12/F-16
 TP243 I-11/I-17

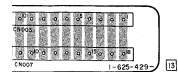
Q054 C-6
 Q091 G-23
 Q091 G-23
 Q095 A-21
 Q227 H-21
 Q229 C-6
 Q230 D-22
 Q231 D-24
 Q233 E-8
 Q235 E-21
 Q238 D-22
 Q240 D-11
 Q242 C-7
 Q243 F-16
 Q244 D-11
 Q245 D-6
 Q249 D-21
 Q250 D-21
 Q251 D-6
 Q252 D-20
 Q253 E-21
 Q254 E-6
 Q256 C-21
 Q257 D-21
 Q258 E-21
 Q332 H-21

IG-2 BOARD (COMPONENT SIDE)



SE-7P BOARD (COMPONENT SIDE)

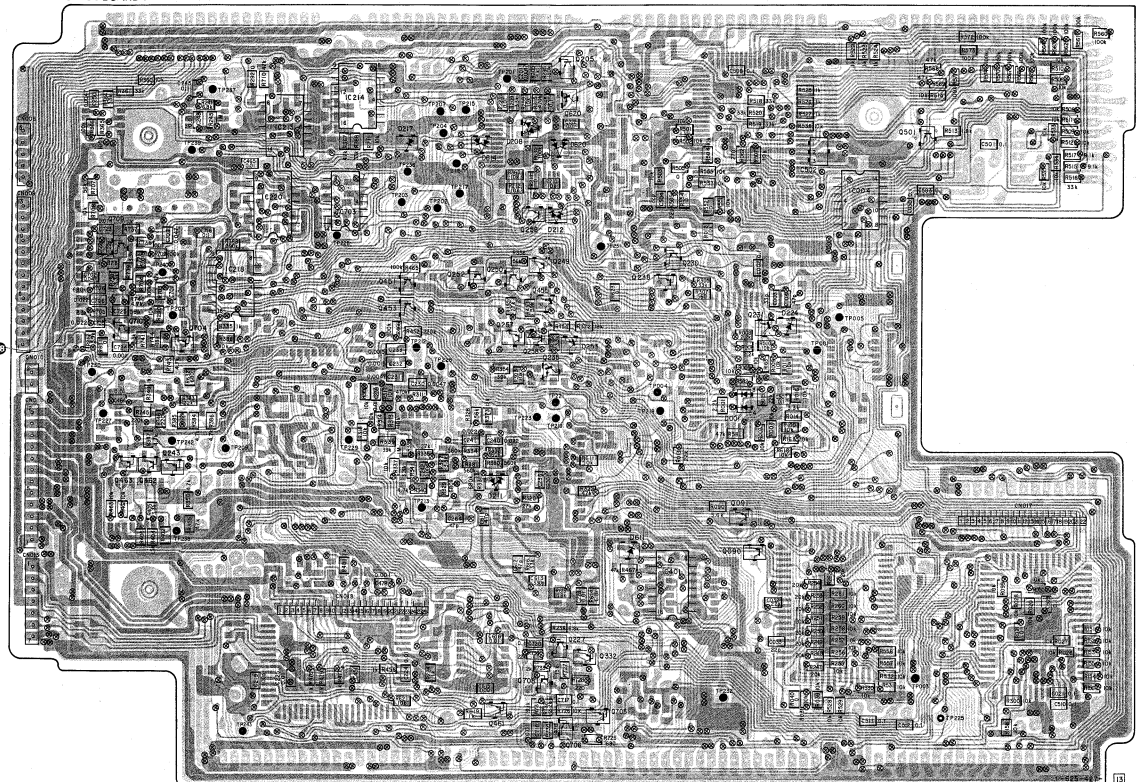
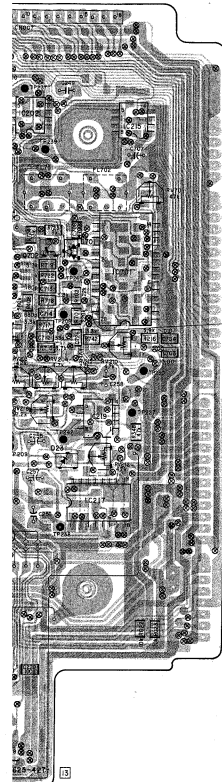




1G-2 BOARD (CONDUCTOR SIDE)



SE-7P BOARD (CONDUCTOR SIDE)



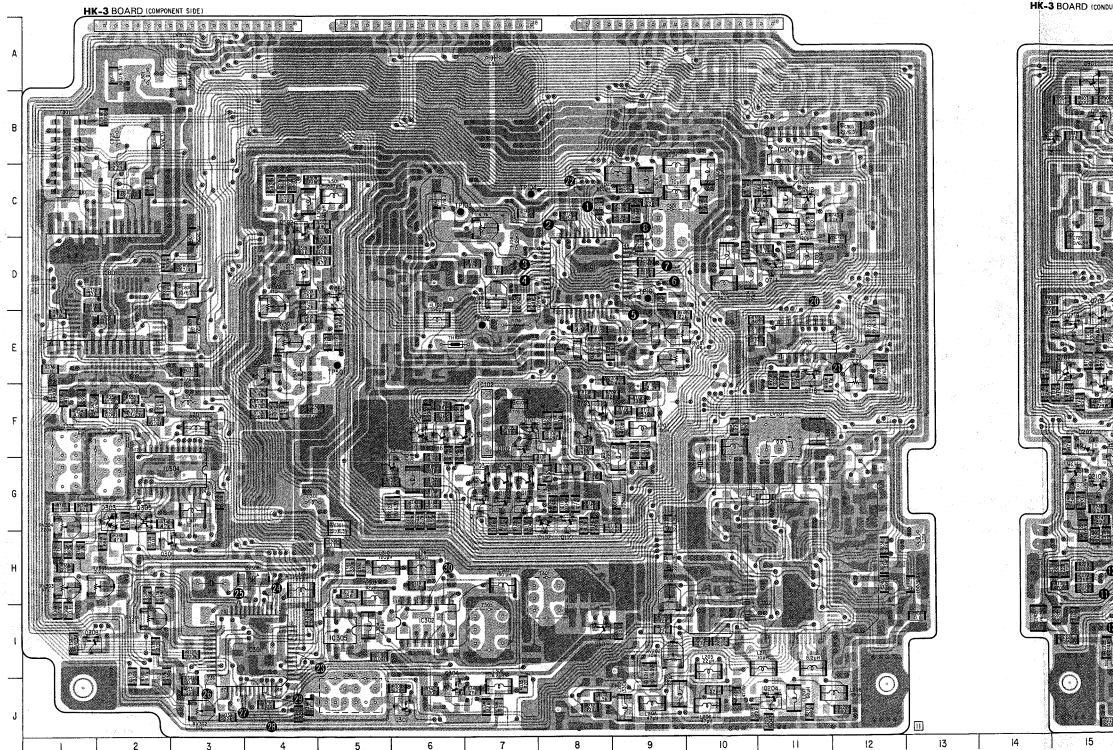
HK-3 (Y/C VIDEO PROCESS) PRINTED WIRING BOARDS

— Ref. No. HK-3 BOARD: 2,000 series —

REC/PB DECK

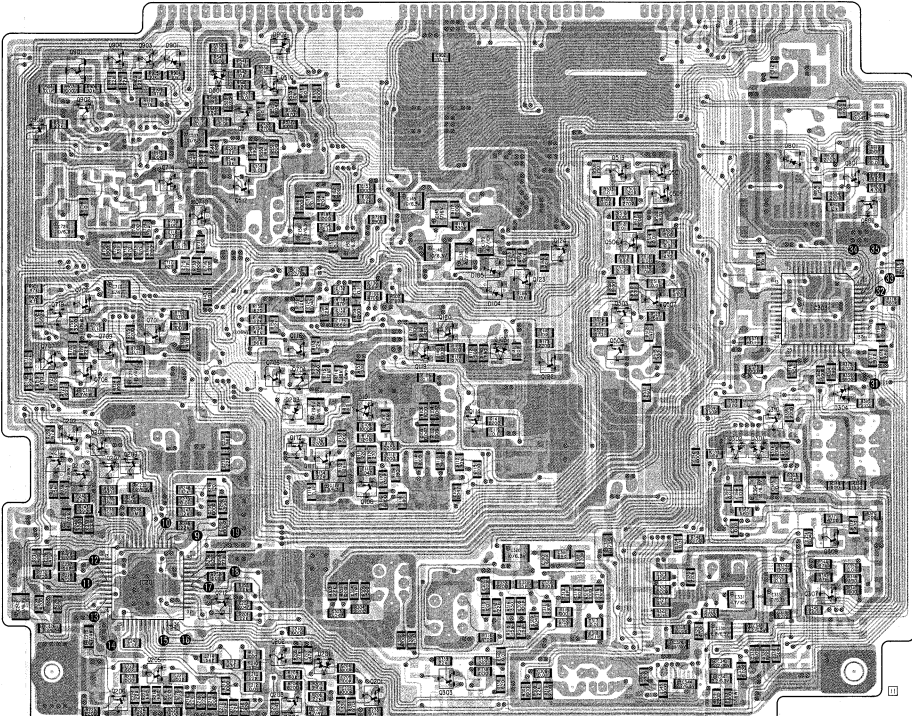
HK-3 BOARD

CN101	A-9	Q501	C-23
CN102	A-6	Q502	C-4
CN103	A-3	Q503	E-23
		Q504	E-4
CV301	H-4	Q505	C-23
		Q506	D-23
D101	F-19	Q507	E-23
D102	G-8	Q508	D-5
D103	E-21	Q509	E-22
D104	D-21	Q510	B-18
D105	D-21	Q511	B-17
D201	J-18	Q512	C-17
D202	F-15	Q513	C-22
D203	F-18	Q701	E-16
D301	G-24	Q702	E-15
D302	G-24	Q703	F-8
D303	G-2	Q704	F-18
D304	F-26	Q705	F-18
D501	B-17	Q707	E-15
D801	C-25	Q708	F-15
D901	A-16	Q709	E-15
D902	A-18	Q710	C-17
		Q711	D-11
IC101	D-8	Q712	C-11
IC102	E-7	Q713	C-11
IC103	E-11	Q714	C-16
IC201	H-16	Q718	E-11
IC301	I-4	Q719	E-15
IC302	I-6	Q801	C-25
IC303	E-25	Q802	C-25
IC304	G-3	Q901	A-15
IC305	I-5	Q902	B-15
IC801	D-2	Q903	A-16
IC901	B-11	Q904	A-16
		Q905	B-15
LV201	F-11		
		RV101	E-9
Q101	F-7	RV102	E-9
Q102	F-7	RV103	E-8
Q103	G-7	RV104	E-9
Q104	G-7	RV106	D-7
Q105	G-7	RV107	C-7
Q106	G-19	RV201	H-9
Q107	G-7	RV202	I-9
Q108	G-7	RV301	I-2
Q109	G-7	RV302	J-3
Q110	G-8	RV303	H-1
Q111	G-18	RV304	G-1
Q112	G-18	RV305	H-2
Q113	G-6	RV501	E-4
Q114	F-20	RV502	D-4
Q115	F-7	RV701	E-12
Q116	F-6		
Q117	F-6	TP101	D-9
Q118	E-18	TP102	E-7
Q119	E-20	TP103	C-6
Q120	E-20	TP104	C-7
Q121	F-8	TP501	E-5
Q122	E-21		
Q123	D-21		
Q124	D-22		
Q201	J-19		
Q202	I-18		
Q203	J-18		
Q204	J-11		
Q205	J-16		
Q206	J-16		
Q207	G-16		
Q208	G-15		
Q209	G-16		
Q210	G-15		
Q211	G-15		
Q212	I-17		
Q301	H-8		
Q302	J-6		
Q303	J-20		
Q304	J-6		
Q305	G-2		
Q306	H-2		
Q307	I-25		
Q308	I-1		
Q309	H-25		
Q310	F-25		



HK-3 BOARD (CONDUIT)

HK-3 BOARD (CONDUCTOR SIDE)

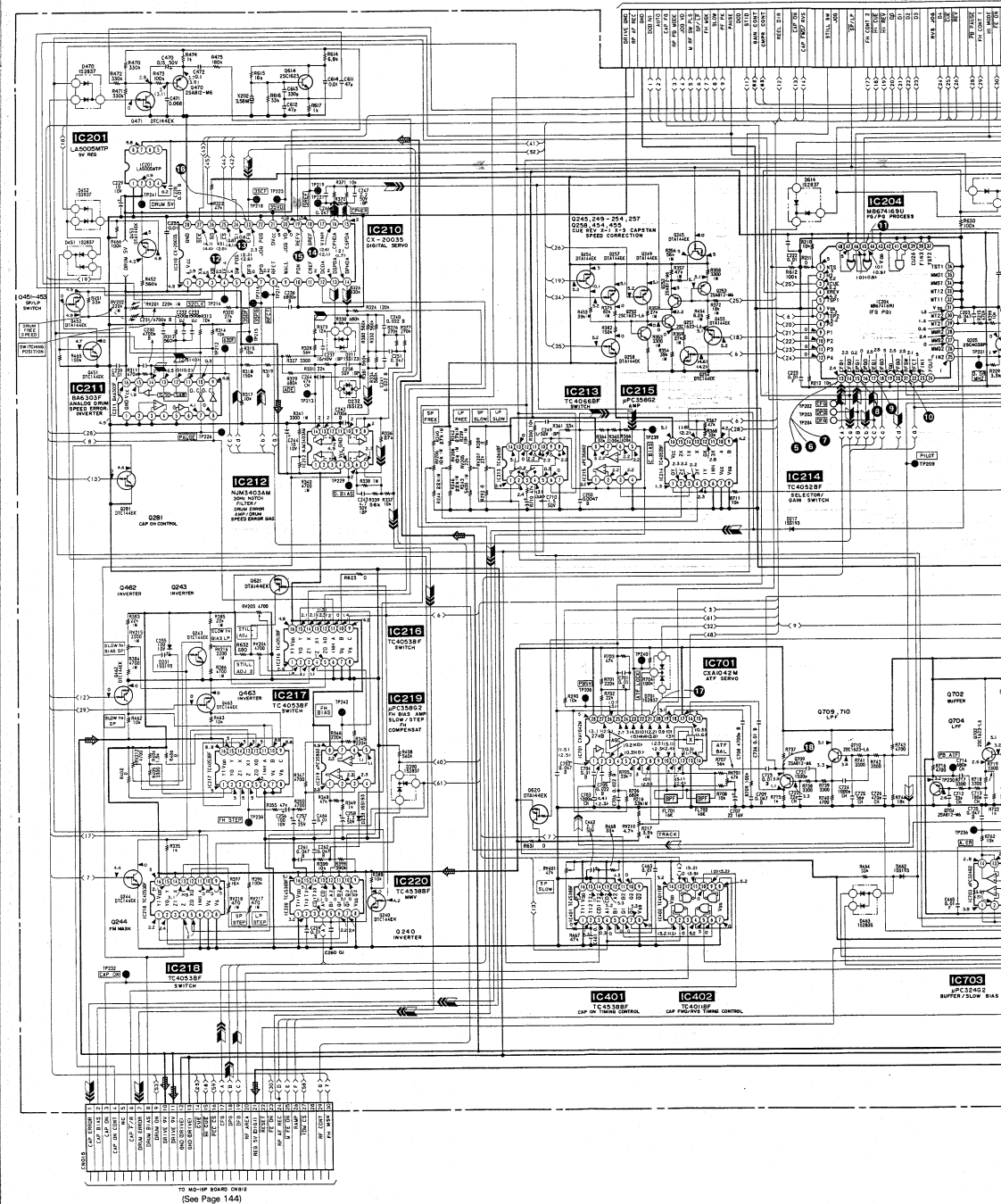


13 14 15 16 17 18 19 20 21 22 23 24 25 26

7P (SERVO) AND IG-2 (TERMINAL) SCHEMATIC DIAGRAM
 ref. No. SE-7P BOARD: 3,000 and IG-2 BOARD: 3,100 series -

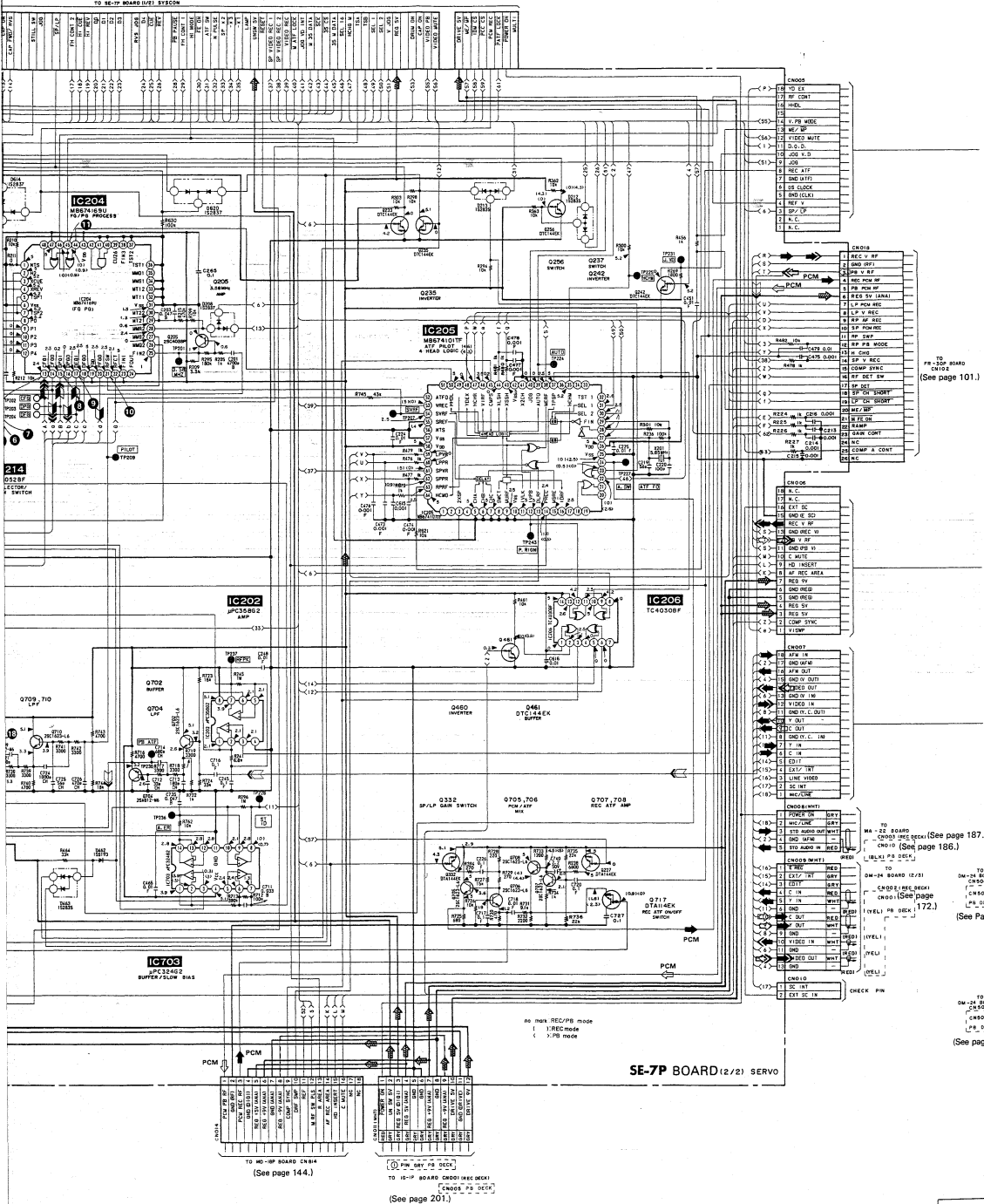
(See page 132.)

TO SE-7P BOARD (V1) BYRON



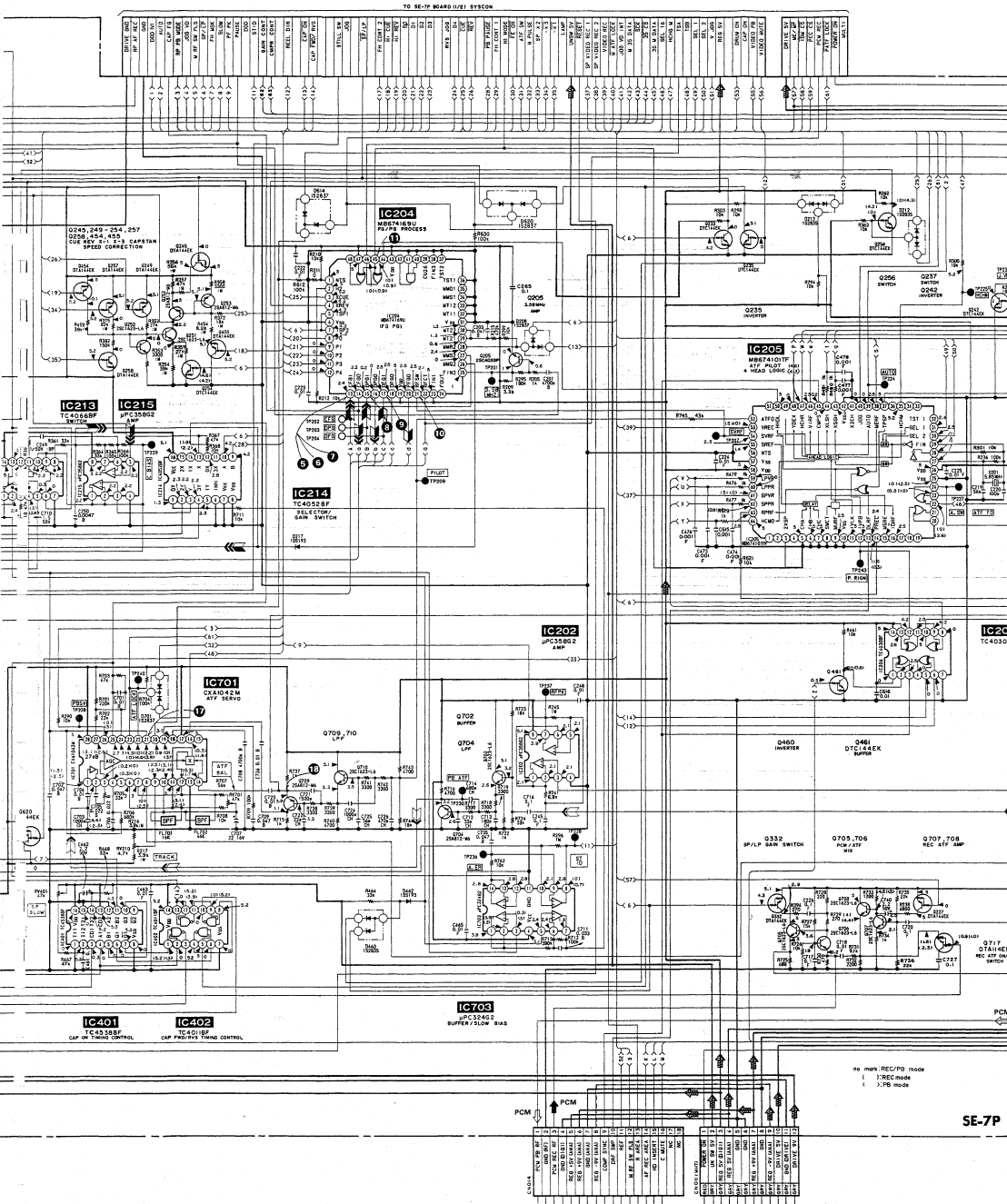
TO IG-2P BOARD (V1) BYRON
 (See Page 144)

TO SE-77 BOARD (1/2) SYSCOM

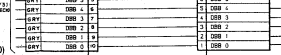
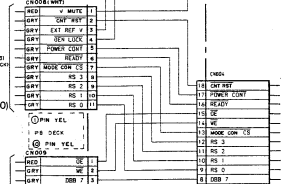
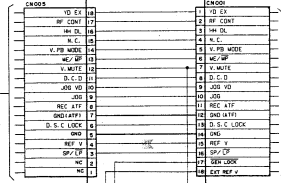
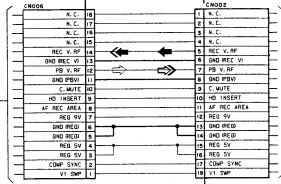
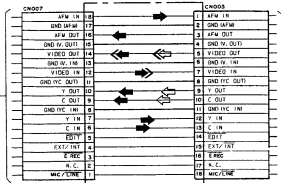
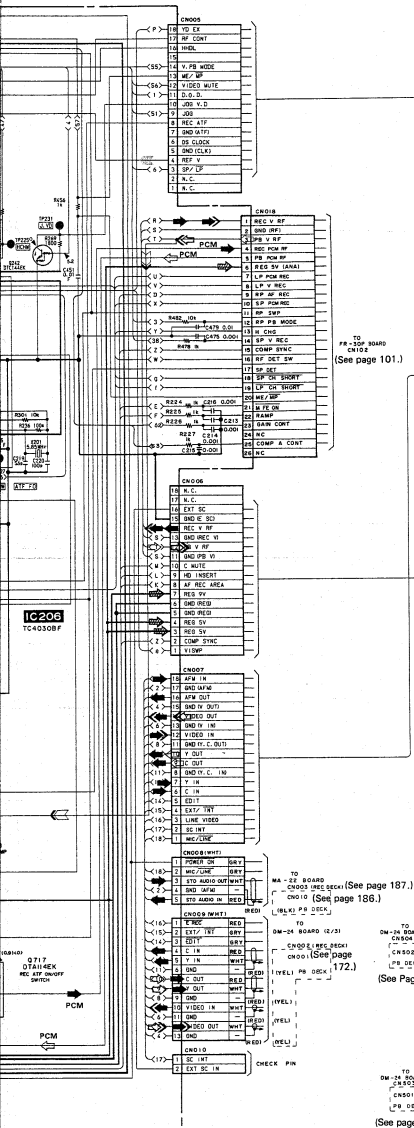


(See page 132.)

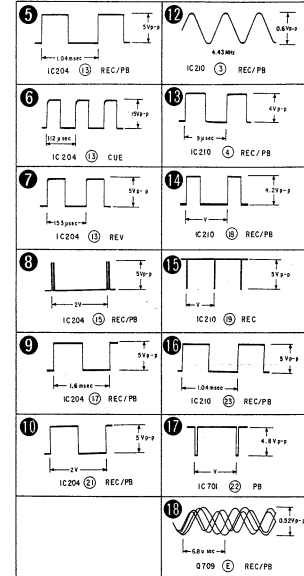
TO SE-7P BOARD (U3) EYECON



SE-7P E



SE-7P BOARD (SERVO)



Signal path

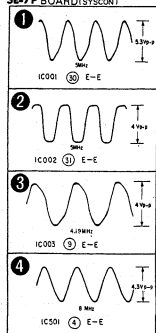
	REC	REC/PB	PB
Drum speed servo			
Drum phase servo			
Drum servo (speed and phase)			
Capstan speed servo			
Capstan phase servo			
Capstan servo (speed and phase)			
Ref. signal			

- REC V/CHROMA Signal
- PB Y/CHROMA Signal
- REC Y Signal
- PB Y Signal
- REC CHROMA Signal
- PB CHROMA Signal
- REC AUDIO Signal
- PB AUDIO Signal

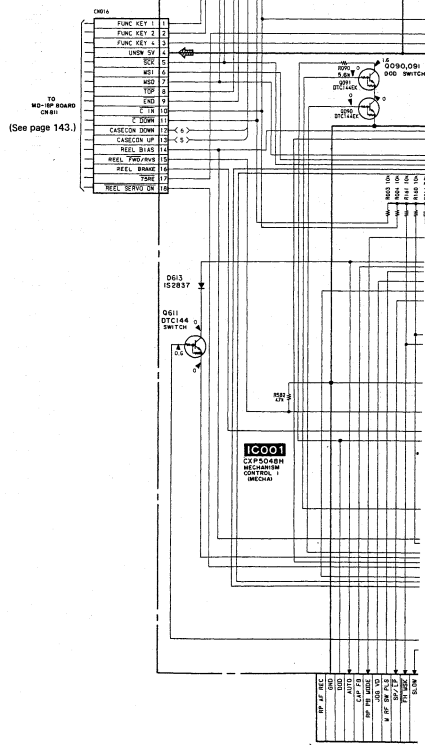
SE-7P (SYSTEM CONTROL) SCHEMATIC DIAGRAM
- Ref. No. SE-7P BOARD: 3,000 series -

REC/PB DECK

SE-7P BOARD (SYSCON)

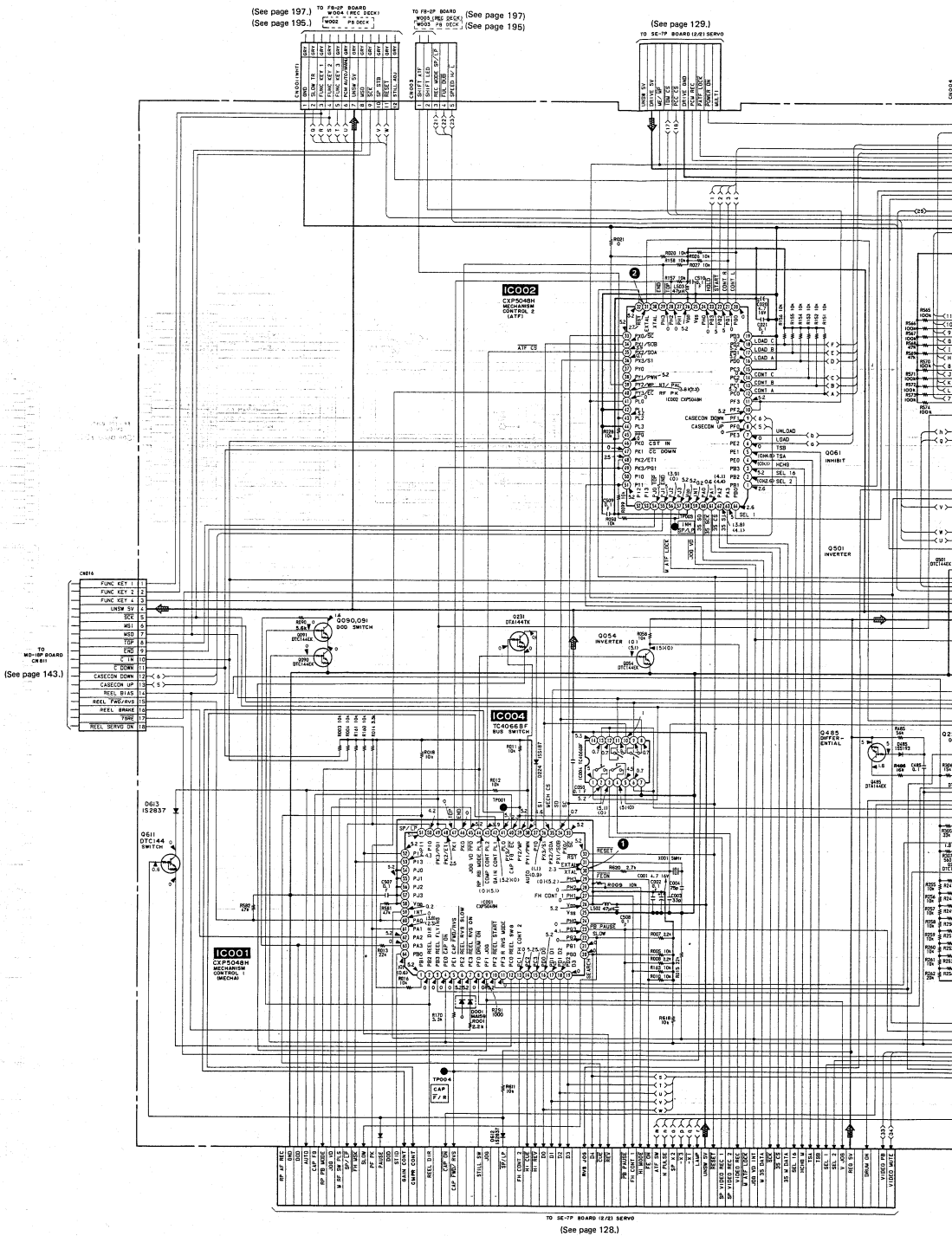


(See page 197.)
(See page 195.)



(See page 130.)

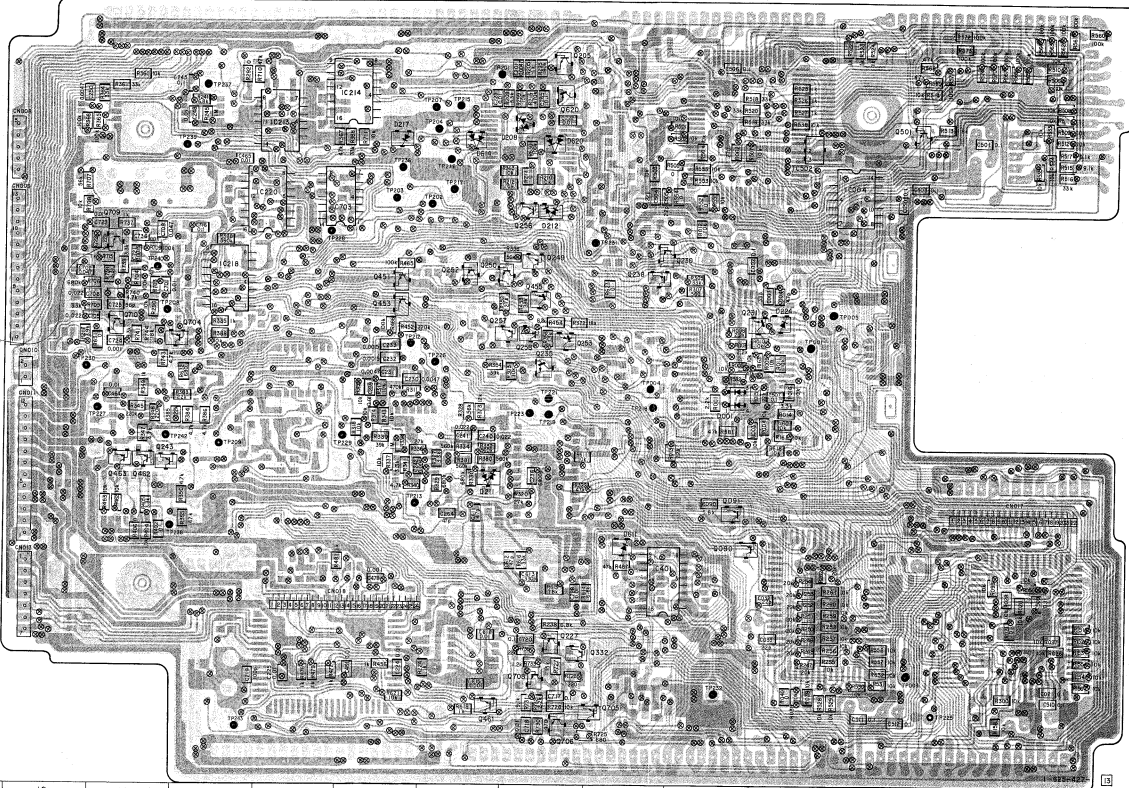
[illegible]



IG-2 BOARD (CONDUCTOR SIDE)



SE-7P BOARD (CONDUCTOR SIDE)

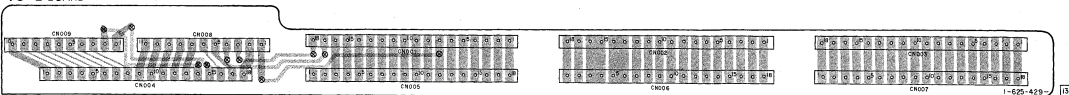


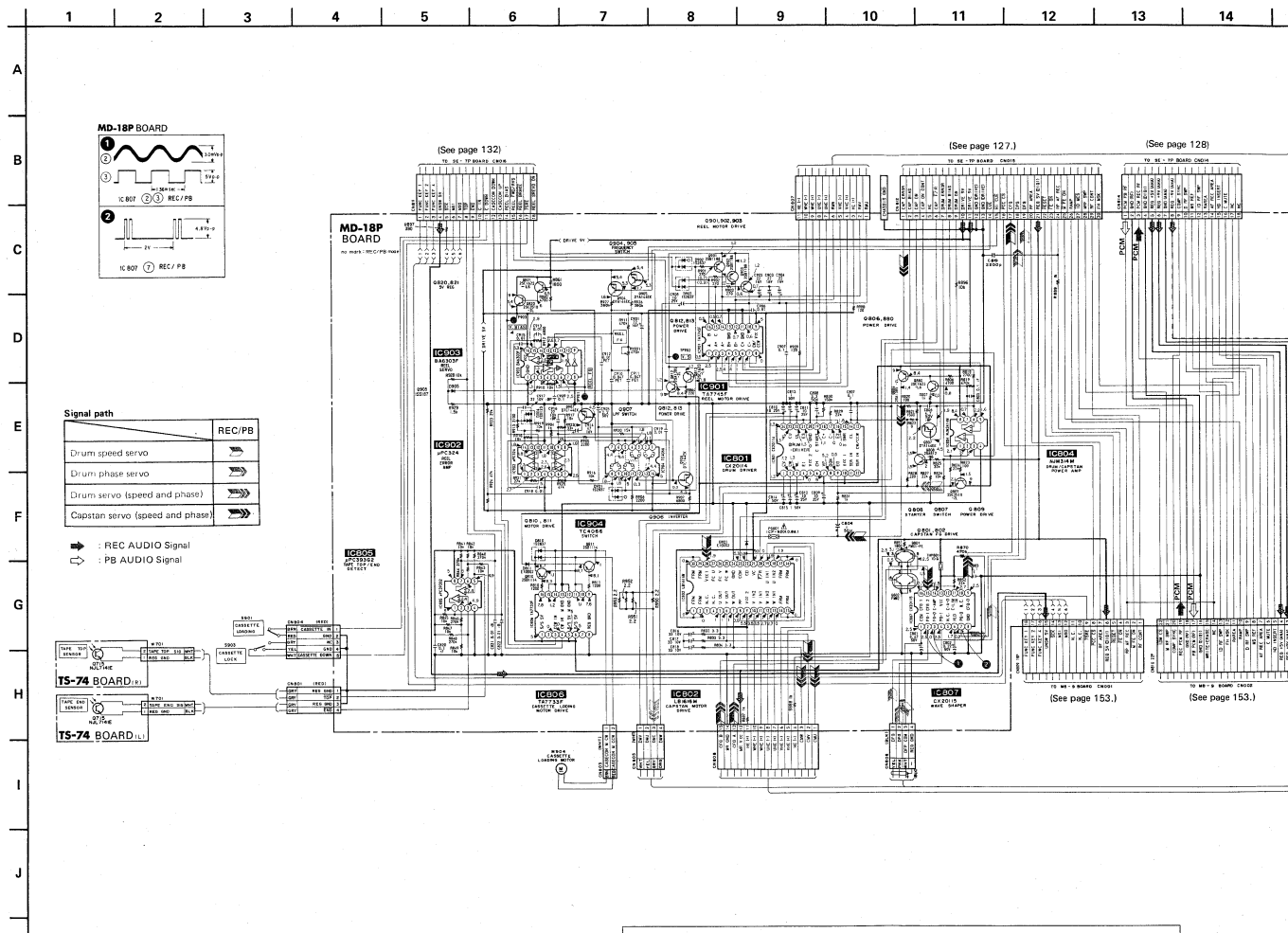
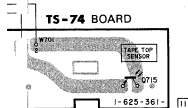
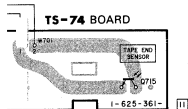
REC/PB DECK

SE-7P BOARD

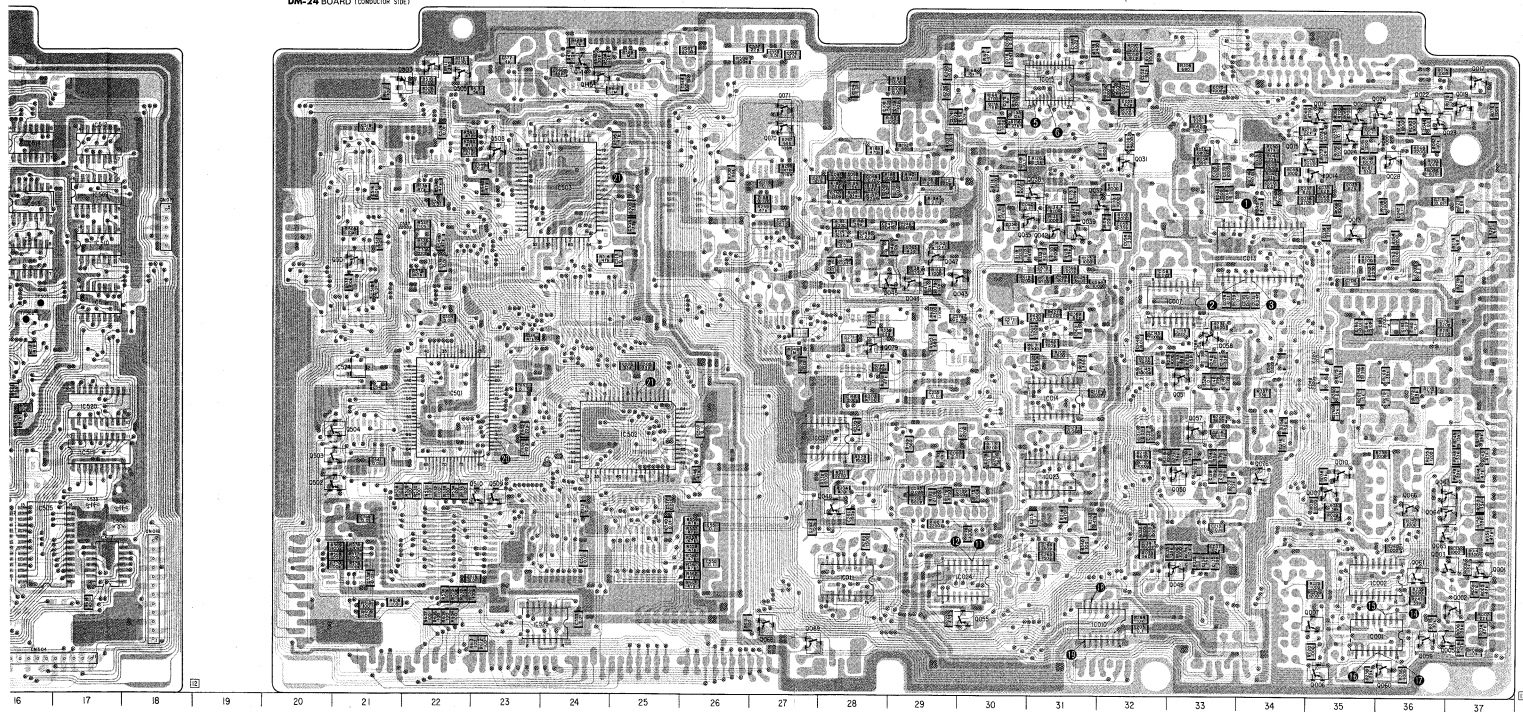
CH001 F.2	Q451 D.19
CH002 A.1	Q452 D.10
CH003 B.2	Q453 D.19
CH004 A.2	Q454 D.8
CH005 A.5	Q455 D.21
CH006 A.8	Q461 I.20
CH007 A.11	Q462 F.16
CH008 B.15	Q463 F.16
CH009 C.15	Q470 E.10
CH010 E.15	Q471 F.11
CH011 F.15	Q480 C.7
CH013 G.15	Q501 B.26
CH014 I.10	Q611 E.6
CH015 I.5	Q614 G.8
CH016 I.2	Q620 B.21
CH017 G.27	Q621 H.11
CH018 H.18	Q702 C.12
	Q704 E.17
D001 E.23	Q705 I.22
D208 B.21	Q706 I.21
D211 F.20	Q707 B.8
D212 C.21	Q708 I.21
D213 E.6	Q709 C.16
D217 B.19	Q710 D.16
D224 D.24	Q717 I.7
D231 F.12	
D232 G.9	RV201 F.8
D233 C.11	RV202 E.10
D390 C.11	RV203 I.12
D451 D.9	RV204 E.12
D452 D.9	RV205 A.11
D462 A.7	RV206 B.10
D463 A.7	RV207 A.11
D470 F.11	RV208 B.10
D486 B.7	RV210 E.13
D611 G.22	RV212 F.13
D612 E.7	RV215 E.12
D613 D.7	RV216 E.12
D614 B.20	RV217 D.11
D620 B.21	RV218 D.11
D701 C.12	RV401 G.7
	RV701 C.13
IC001 E.5	TP001 E.4/E.24
IC002 H.2	TP003 I.5/I.25
IC003 H.4	TP004 E.6/E.22
IC004 C.25	TP005 D.4/D.25
IC005 E.4	TP001 A.8/A.20
IC001 H.7	TP002 G.9/G.20
IC002 B.12	TP003 C.9/C.19
IC004 B.8	TP004 B.9/B.20
IC005 H.10	TP007 B.9/B.20
IC206 H.8	TP008 D.12/D.16
IC210 F.7	TP009 F.11/F.17
IC211 E.9	TP212 E.9/E.19
IC212 F.9	TP213 G.9/G.19
IC213 B.18	TP214 G.9
IC214 B.19	TP215 B.9/B.20
IC215 B.13	TP216 B.9/B.20
IC216 E.10	TP217 C.9/C.20
IC217 C.12	TP218 E.6/E.22
IC218 D.17	TP219 E.7/E.21
IC219 F.13	TP221 E.7/E.21
IC220 C.18	TP223 E.6/E.21
IC401 G.22	TP225 I.5/I.6
IC402 H.6	TP227 E.13/E.16
IC501 B.5	TP228 C.10/C.18
IC502 B.24	TP229 F.10/F.13
IC701 D.13	TP230 E.13/E.15
IC703 C.18	TP231 C.7/C.22
	TP232 I.5/I.23
Q054 C.6	TP236 C.9/C.19
Q090 G.23	TP237 B.12/B.17
Q091 G.23	TP238 G.12/G.16
Q205 A.21	TP239 B.12/B.17
Q227 H.21	TP240 D.12/D.16
Q229 C.6	TP241 G.7
Q230 D.22	TP242 F.12/F.16
Q231 D.24	TP243 I.11/I.17
Q232 E.8	
Q235 E.21	
Q238 D.22	
Q240 D.11	
Q242 C.7	
Q243 F.16	
Q244 D.11	
Q245 D.8	
Q249 D.21	
Q250 D.21	
Q251 D.8	
Q252 D.20	
Q253 E.21	
Q254 E.8	
Q256 C.21	
Q257 D.21	
Q258 E.21	
Q332 H.21	

IG-2 BOARD (COMPONENT SIDE)





DM-24 BOARD (CONDUCTOR SIDE)



DM-24 (DIGITAL PICTURE) PRINTED WIRING BOARD

— Ref. No. DM-24 BOARD: 6,000 series —

DM-24 BOARD

CN001	H1
CN002	F1
CN003	E1
CN004	C1
CN006	J5
CN007	J6
CN008	J10
CN009	A3
CN010	H18
CN019	D18
CN020	J12
CN022	J13
CN033	J15
CN034	J16
CN035	C6
CN036	B9
CN037	I5
CN038	A15
D502	B15
D503	B22
IC001	I36
IC002	I36
IC003	I3
IC004	H5
IC005	I5
IC006	E5
IC007	E33
IC008	D2
IC009	D3
IC010	I32
IC011	I28
IC012	I3
IC013	D34
IC014	F31
IC015	B31
IC016	F4
IC017	D10
IC018	G9
IC019	C7
IC020	F9
IC021	D10
IC022	H6
IC023	G31
IC024	I30
IC025	F4
IC026	H10
IC027	G10
IC028	F10
IC030	C12
IC031	I11
IC032	D11
IC033	E2
IC034	G11
IC035	H7
IC037	G28
IC038	E10
IC039	F12
IC040	G25
IC041	G24
IC042	E14
IC043	H16
IC044	H16
IC045	H14
IC046	H14
IC047	C17
IC048	D17
IC049	I17
IC050	B17
IC051	B16
IC052	B16
IC053	H17
IC054	I13
IC055	D17
IC056	I17
IC057	H17
IC058	I13
IC059	D16
IC060	H17
IC061	I13
IC062	D17
IC063	I17
IC064	H17
IC065	I13
IC066	D17
IC067	I17
IC068	H17
IC069	I13
IC070	D17
IC071	I17
IC072	H17
IC073	I13
IC074	D17
IC075	H17
IC076	I13
IC077	D17
IC078	I17
IC079	H17
IC080	I13
IC081	D17
IC082	I17
IC083	H17
IC084	I13
IC085	D17
IC086	I17
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IC088	I13
IC089	D17
IC090	I17
IC091	H17
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IC096	I13
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IC099	H17
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IC101	D17
IC102	I17
IC103	H17
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IC107	H17
IC108	I13
IC109	D17
IC110	I17
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IC112	I13
IC113	D17
IC114	I17
IC115	H17
IC116	I13
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IC119	H17
IC120	I13
IC121	D17
IC122	I17
IC123	H17
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IC125	D17
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IC129	D17
IC130	I17
IC131	H17
IC132	I13
IC133	D17
IC134	I17
IC135	H17
IC136	I13
IC137	D17
IC138	I17
IC139	H17
IC140	I13
IC141	D17
IC142	I17
IC143	H17
IC144	I13
IC145	D17
IC146	I17
IC147	H17
IC148	I13
IC149	D17
IC150	I17
IC151	H17
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IC155	H17
IC156	I13
IC157	D17
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IC161	D17
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IC163	H17
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IC165	D17
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IC169	D17
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IC173	D17
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IC207	H17
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IC209	D17
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IC211	H17
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IC214	I17
IC215	H17
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IC219	H17
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IC225	D17
IC226	I17
IC227	H17
IC228	I13
IC229	D17
IC230	I17
IC231	H17
IC232	I13
IC233	D17
IC234	I17
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IC236	I13
IC237	D17
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IC260	I13
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IC262	I17
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IC264	I13
IC265	D17
IC266	I17
IC267	H17
IC268	I13
IC269	D17
IC270	I17
IC271	H17
IC272	I13
IC273	D17
IC274	I17
IC275	H17
IC276	I13
IC277	D17
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IC279	H17
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IC281	D17
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IC283	H17
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IC289	D17
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IC293	D17
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IC301	D17
IC302	I17
IC303	H17
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IC325	D17
IC326	I17
IC327	H17
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IC329	D17
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IC331	H17
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IC335	H17
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IC338	I17
IC339	H17
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IC342	I17
IC343	H17
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IC345	D17
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IC347	H17
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IC351	H17
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IC359	H17
IC360	I13
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IC364	I13
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IC367	H17
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IC373	D17
IC374	I17
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IC377	D17
IC378	I17
IC379	H17
IC380	I13
IC381	D17
IC382	I17
IC383	H17
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IC385	D17
IC386	I17
IC387	H17
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IC389	D17
IC390	I17
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IC393	D17
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IC401	D17
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IC405	D17
IC406	I17
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IC411	H17
IC412	I13
IC413	D17
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IC430	I17
IC431	H17
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IC435	H17
IC436	I13
IC437	D17
IC438	I17
IC439	H17
IC440	I13
IC441	D17
IC442	I17
IC443	H17
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IC446	I17
IC447	H17
IC448	I13
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IC463	H17
IC464	I13
IC465	D17
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IC469	D17
IC470	I17
IC471	H17
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IC477	D17
IC478	I17
IC479	H17
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IC481	D17
IC482	I17
IC483	H17
IC484	I13
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IC486	I17
IC487	H17
IC488	I13
IC489	D17
IC490	I17
IC491	H17
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IC493	D17
IC494	I17
IC495	H17
IC496	I13
IC497	D17
IC498	I17
IC499	H17
IC500	I13
IC501	D17
IC502	I17
IC503	H17
IC504	I13
IC505	D17
IC506	I17
IC507	H17
IC508	I13
IC509	D17
IC510	I17
IC511	H17
IC512	I13
IC513	D17
IC514	I17
IC515	H17
IC516	I13
IC517	D17
IC518	I17
IC519	H17
IC520	I13
IC521	D17
IC522	I17
IC523	H17
IC524	I13
IC525	D17
IC526	I17
IC527	H17
IC528	I13
IC529	D17
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IC531	H17
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IC533	D17
IC534	I17
IC535	H17
IC536	I13
IC537	D17
IC538	I17
IC539	H17
IC540	I13
IC541	D17
IC542	I17
IC543	H17
IC544	I13
IC545	D17
IC546	I17
IC547	H17
IC548	I13
IC549	D17
IC550	I17
IC551	H17
IC552	I13
IC553	D17
IC554	I17
IC555	H17
IC556	I13
IC557	D17
IC558	I17
IC559	H17
IC560	I13
IC561	D17
IC562	I17
IC563	H17
IC564	I13

DM-15R BOARD

TP401 D-8



DM-15P BOARD

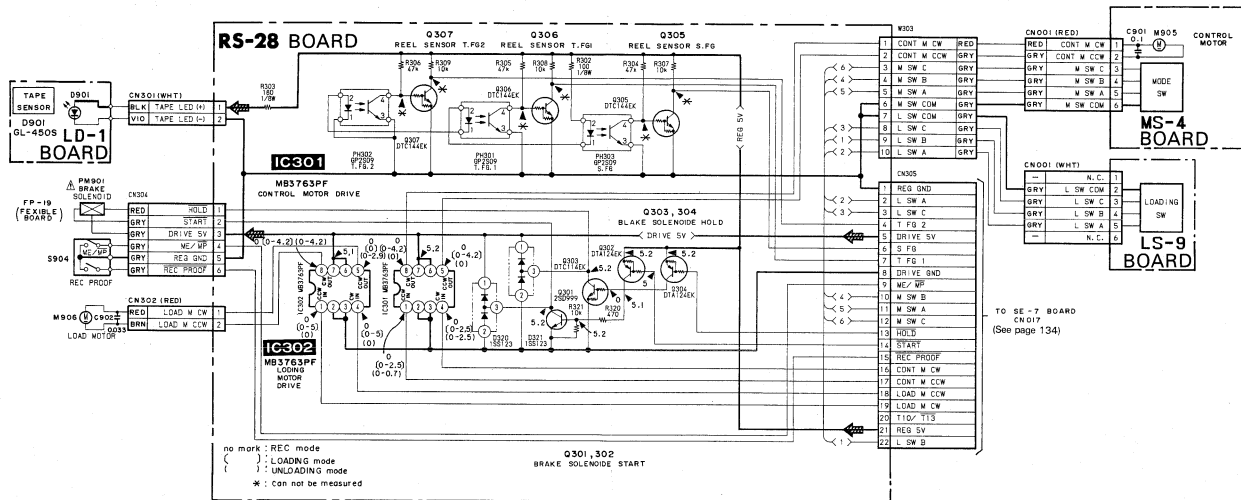
- CM401 B-9
- D401 A-2
- D402 G-5
- IC401 D-6
- IC402 H-8
- IC403 C-8
- IC404 C-7
- IC405 E-1
- IC406 D-2
- IC407 D-2
- IC408 C-2
- IC409 B-2
- IC410 J-5
- IC411 J-6
- IC412 A-6
- IC413 A-4
- IC414 A-2
- IC415 E-8
- IC416 A-8
- IC417 C-6
- Q401 K-7
- Q402 J-8
- Q403 I-8
- TP401 D-8

RS-28 (MECHANISM CONTROL), LD-1 (TAPE SENSOR), MS-4 (MODE SWITCH), LS-9 (LOADING SWITCH) SCHEMATIC DIAGRAM



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

— Ref. No. RS-28 BOARD: 4000 series, LD-1 BOARD: 4100 series, MS-4 BOARD: 4200 series, LS-9 BOARD: 4300 series —

REC/PB DECK



When indicating parts by reference number, please include the board name.

Note: The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

MECHANISM CONTROL MECHANISM CONTROL

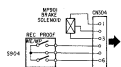
RS-28 (MECHANISM CONTROL), LD-1 (TAPE SENSOR), MS-4 (MODE SWITCH), LS-9 (LOADING SWITCH) PRINTED WIRING BOARD

— Ref. No. RS-28 BOARD: 4000 series. LD-1 BOARD: 4100 series. MS-4 BOARD: 4200 series. LS-9 BOARD: 4300 series —

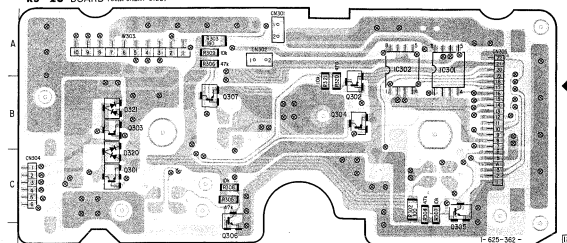
REC/PB DECK

RS-28 BOARD

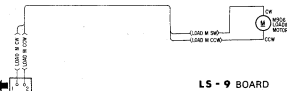
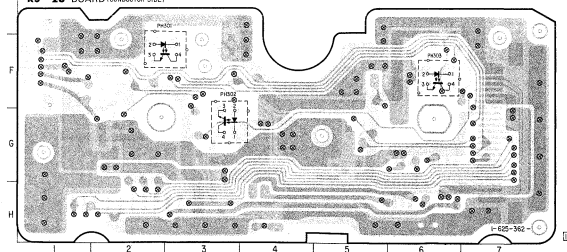
CN301 A-4
CN302 A-4
CN304 C-1
CN305 A-7
D320 C-2
D321 B-2
IC301 A-6
IC302 A-6
Q301 C-2
Q302 B-5
Q303 B-5
Q304 D-5
Q305 C-7
Q306 D-3
Q307 B-3
W303 A-2



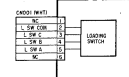
RS-28 BOARD (COMPONENT SIDE)



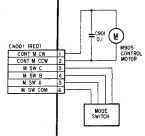
RS-28 BOARD (CONDUCTOR SIDE)



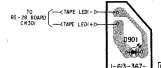
LS-9 BOARD



MS-4 BOARD

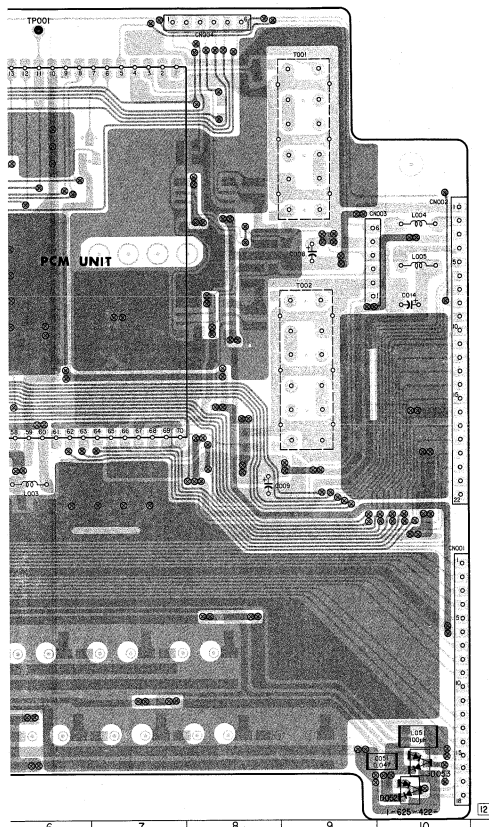


LD-1 BOARD

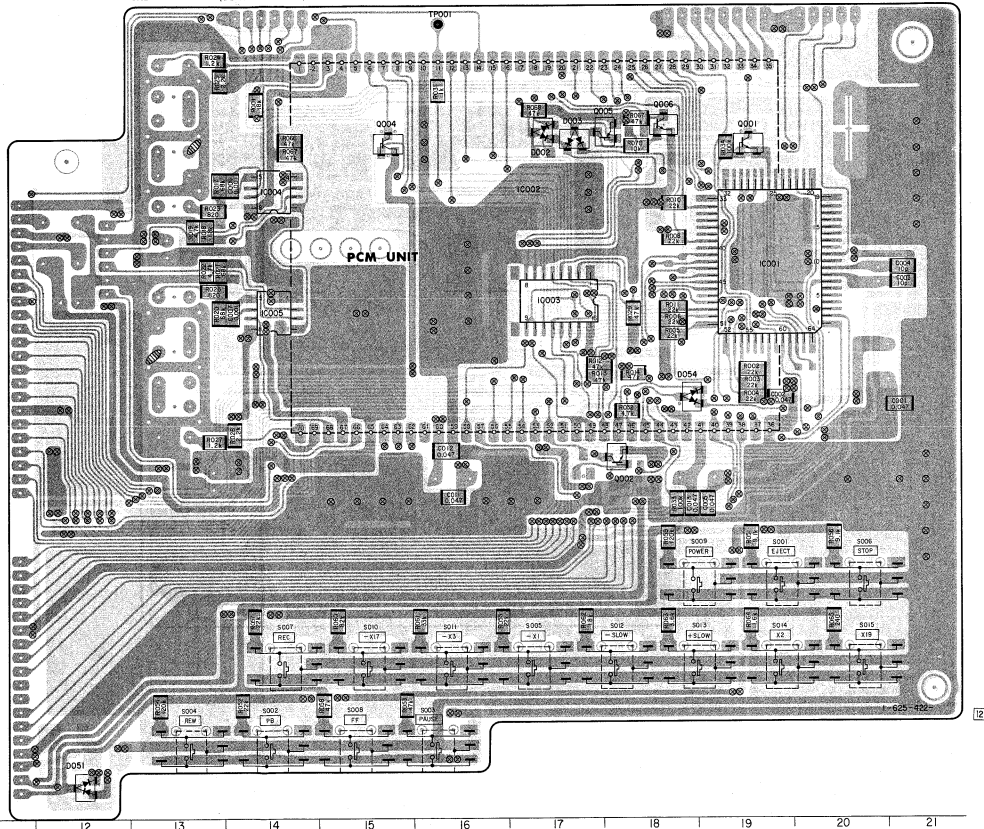


- Digital transistor (RS-28: Q302, 303, 304, 305, 306, 307) transistor with resistors.
Refer to the RS-28 board schematic diagram for digital transistor.

RS-28 (1)
1
— Ref. —
A
B
C
D
E
F
G
H
I
J



MB-9P BOARD (CONDUCTOR SIDE)



MB-9P (PCM AUDIO) PRINTED WIRING BOARD

- Ref. No. MB-9P BOARD: 5000 series -

REC/PB DECK

MB-9P BOARD

CN001 F-10
 CN002 C-10
 CN003 C-9
 CN004 A-8
 CN005 A-5
 CN006 A-2

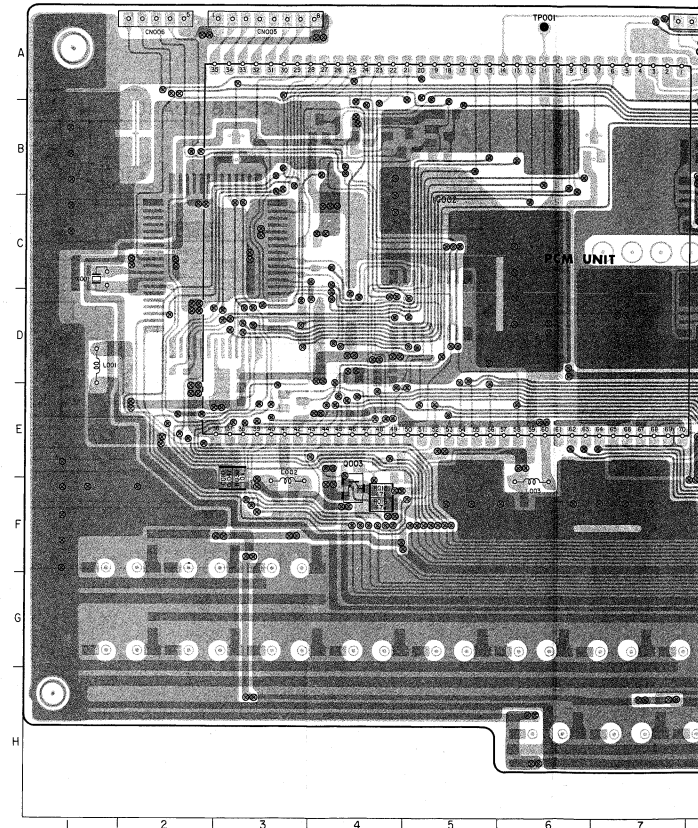
D002 B-17
 D003 B-17
 D051 H-12
 D052 H-10
 D053 H-10
 D054 D-18

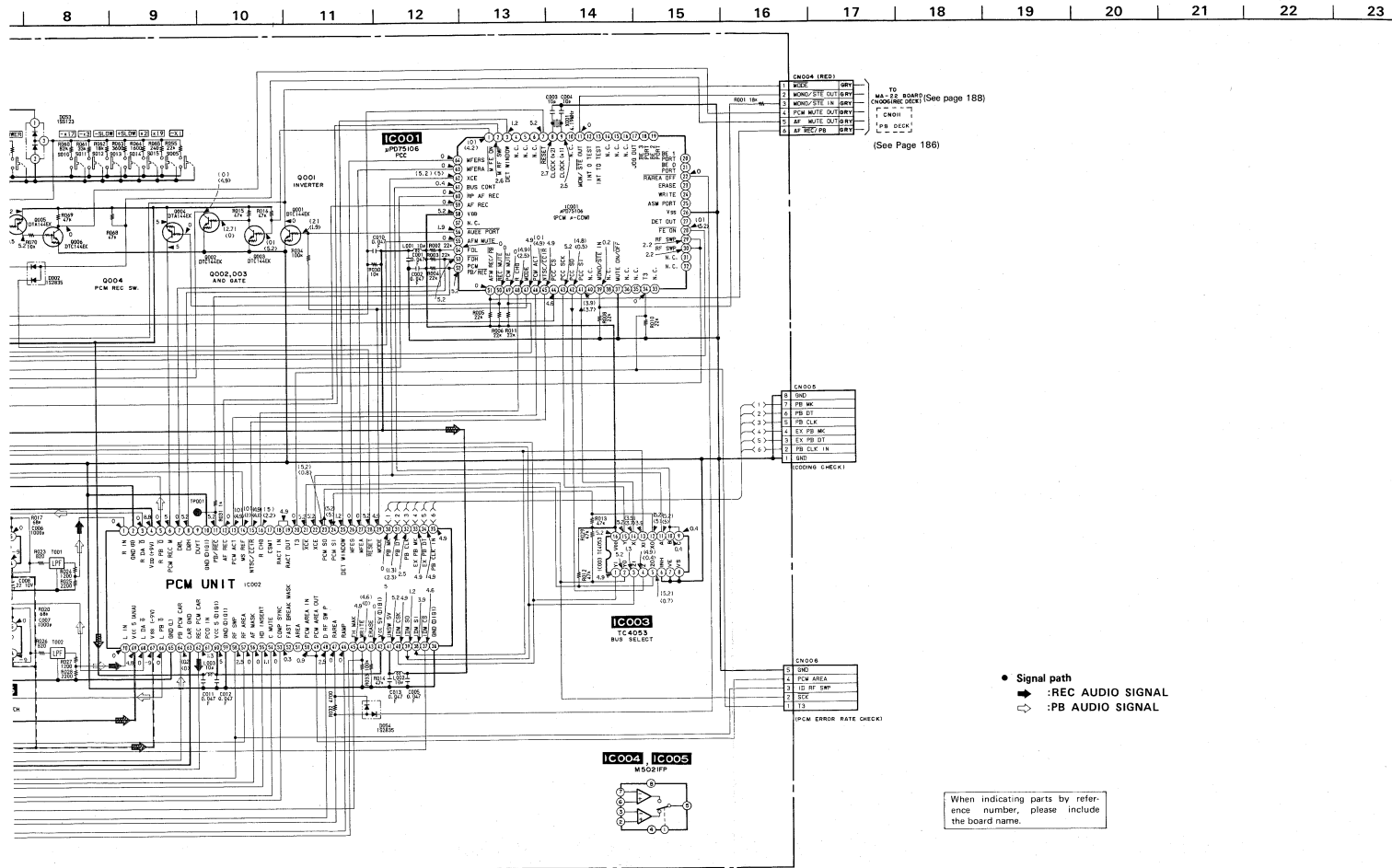
IC001 C-19
 IC002 C-17
 IC003 D-17
 IC004 C-14
 IC005 D-14

Q001 B-19
 Q002 E-18
 Q003 E-4
 Q004 B-16
 Q005 B-18
 Q006 D-18

TP001 A-8/A-16

MB-9P BOARD (COMPONENT SIDE)





- Ref. No. MB-9P BOARD: 5000 series -



PCM AUDIO PCM AUDIO

PD-16P (PCM AUDIO DIGITA), PA-11P (PCM AUDIO ANALOG) PRINTED WIRING BOARDS

- Ref. No. PD-16P BOARD: 5,000 series, PA-11P BOARD: 5,500 series -

REC/PB DECK

PD-16P BOARD

CN851 E-4
CN852 A-4
CN853 F-7

D851 B-6
D853 O-2

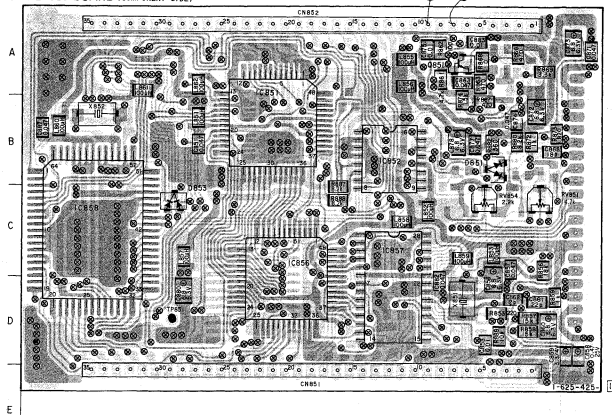
IC851 A-3
IC852 B-5
IC853 F-6
IC854 H-6
IC855 G-3
IC856 C-4
IC857 C-5
IC858 C-1
IC859 G-1
IC860 H-3

CR851 A-5
CR852 H-6
CR853

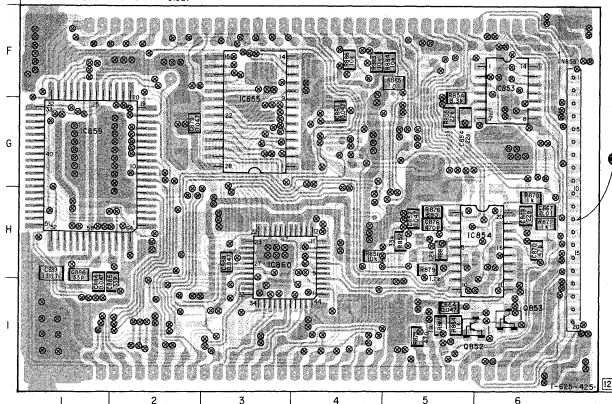
RV851 C-6
RV854 C-6

TP851 D-2

PD-16P BOARD (COMPONENT SIDE)



PD-16P BOARD (CONDUCTOR SIDE)



PA-11P BOARD

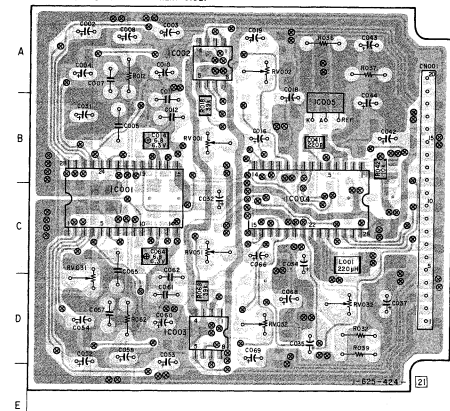
CN001 A-6
D031 H-4
D032 H-3

IC001 C-1
IC002 A-2
IC003 D-2
IC004 C-3
IC005 B-4

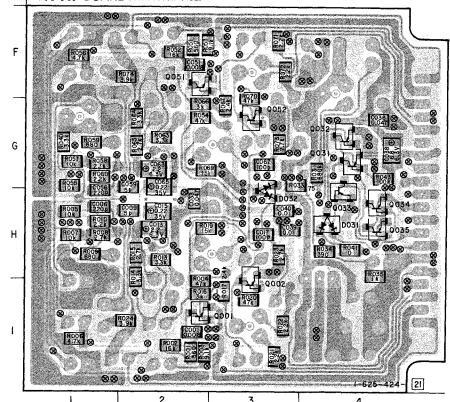
Q001 I-2
Q002 A-3
Q031 G-4
Q032 G-4
Q033 H-4
Q034 H-4
Q035 H-4
Q051 F-2
Q052 G-3

RV001 B-2
RV002 A-3
RV031 C-1
RV032 D-4
RV051 C-2
RV052

PA-11P BOARD (COMPONENT SIDE)



PA-11P BOARD (CONDUCTOR SIDE)

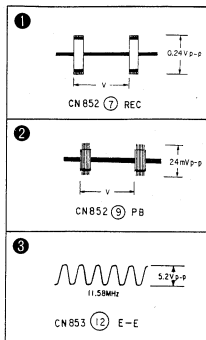


PD-16P (PCM AUDIO DIGITAL), PA-11P (PCM AUDIO ANALOG) PRINTED WIRING BOARDS

— Ref. No. PD-16P BOARD: 5,000 series, PA-11P BOARD: 5,500 series —

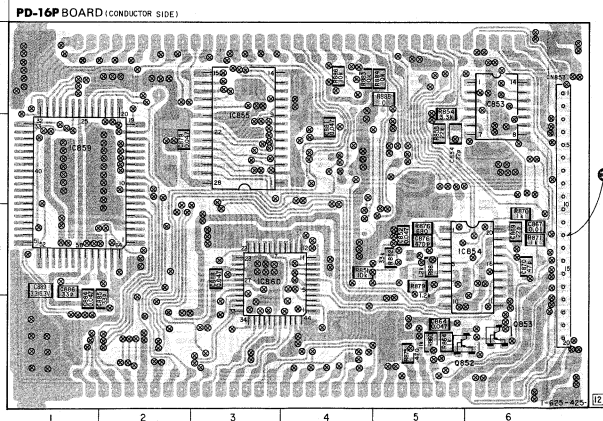
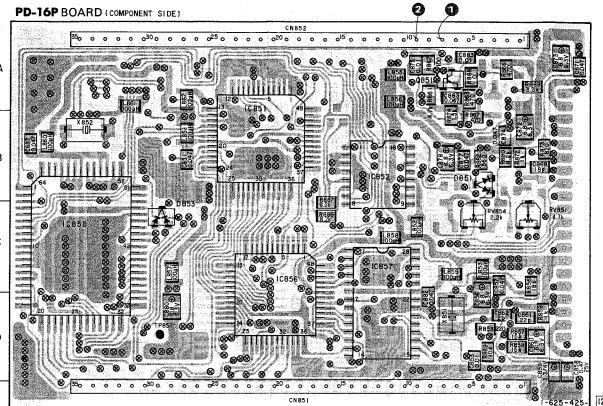
REC/PB DECK

PD-16P BOARD

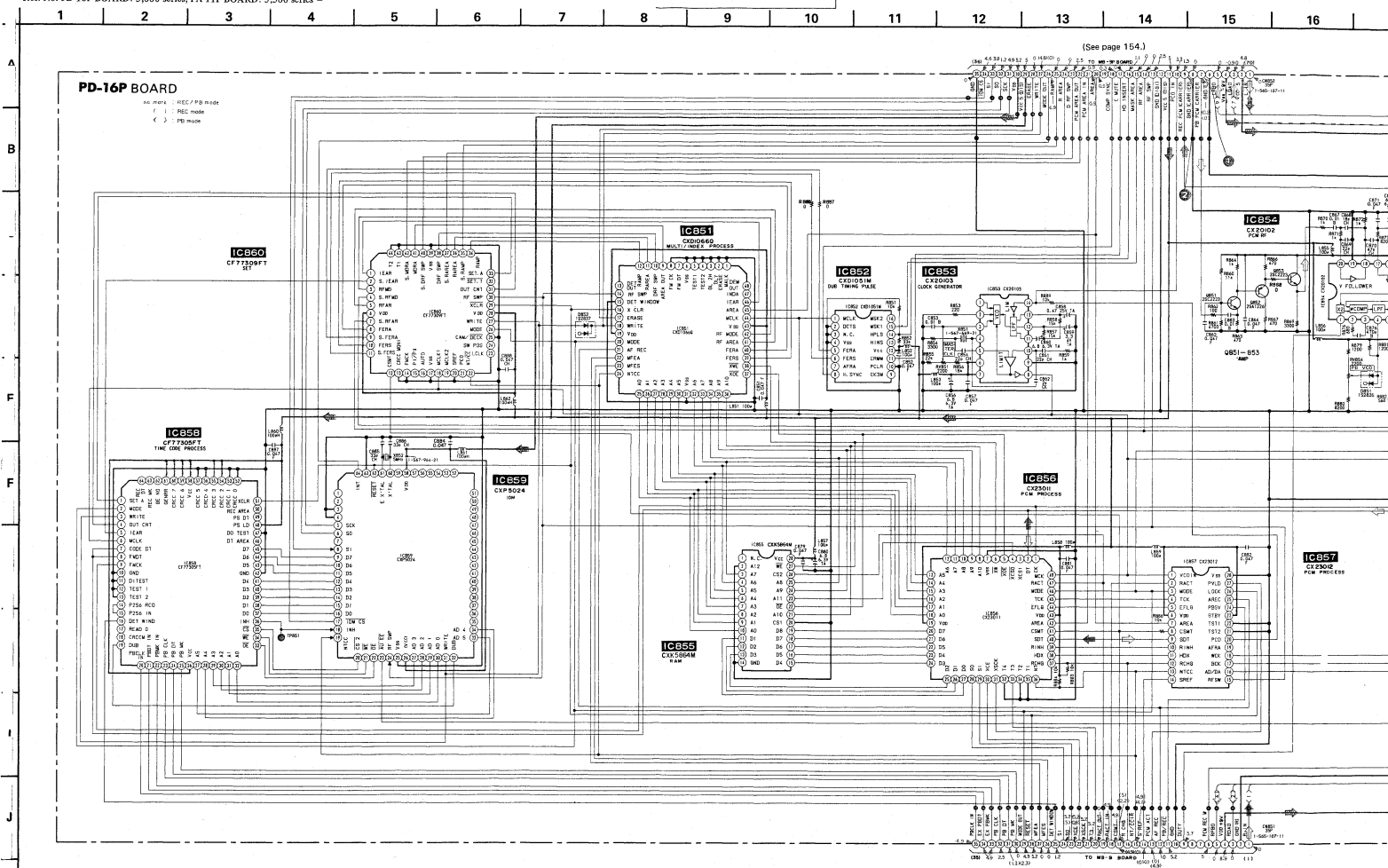


PD-16P BOARD

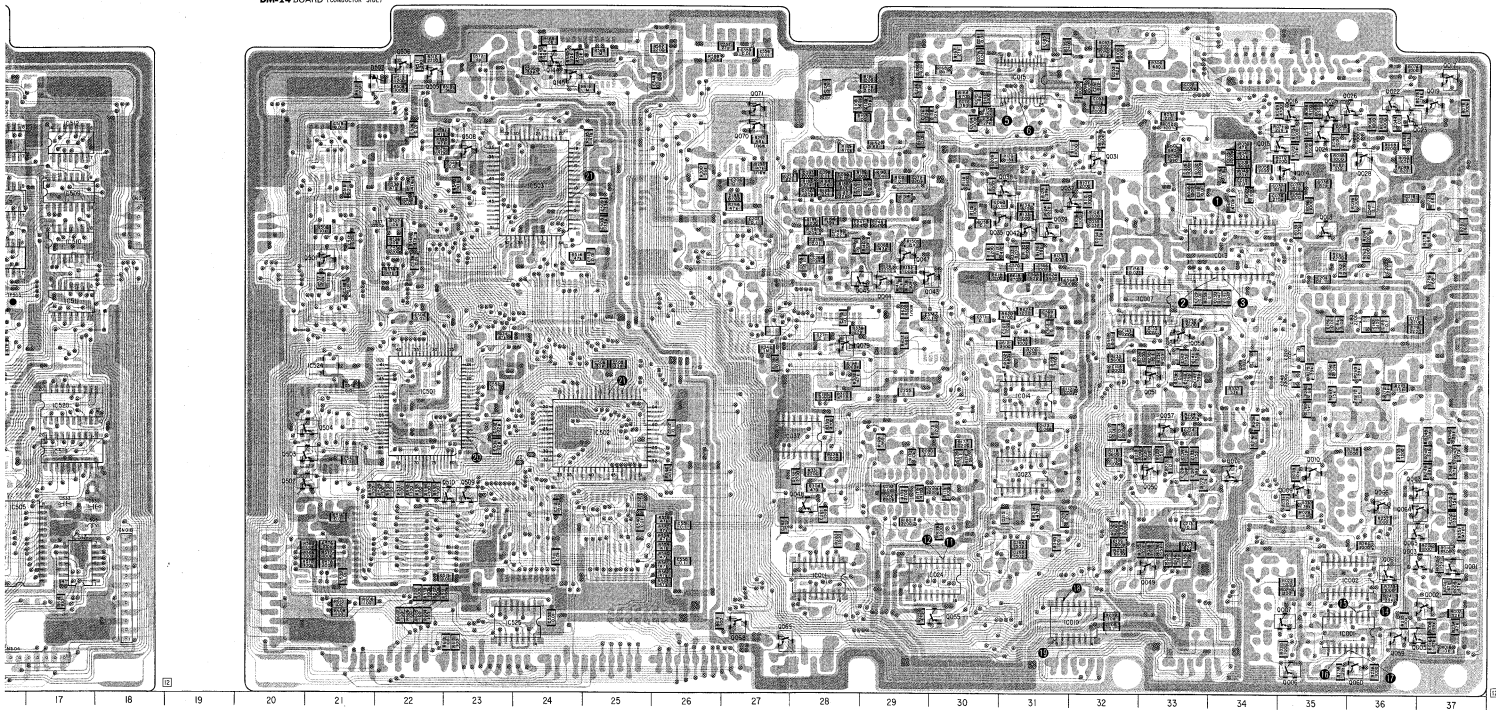
CN851	E-4
CN852	A-4
CN853	F-7
DB51	H-4
DB52	C-2
IC851	A-3
IC852	B-5
IC853	P-6
IC854	H-6
IC855	G-3
IC856	C-4
IC857	C-6
IC858	C-1
IC859	Q-1
IC860	H-3
QB51	A-6
QB52	F-6
QB53	F-6
RV851	C-6
RV854	C-6
TP851	D-2



PCM AUDIO



DM-24 BOARD (CONDUCTOR SIDE)



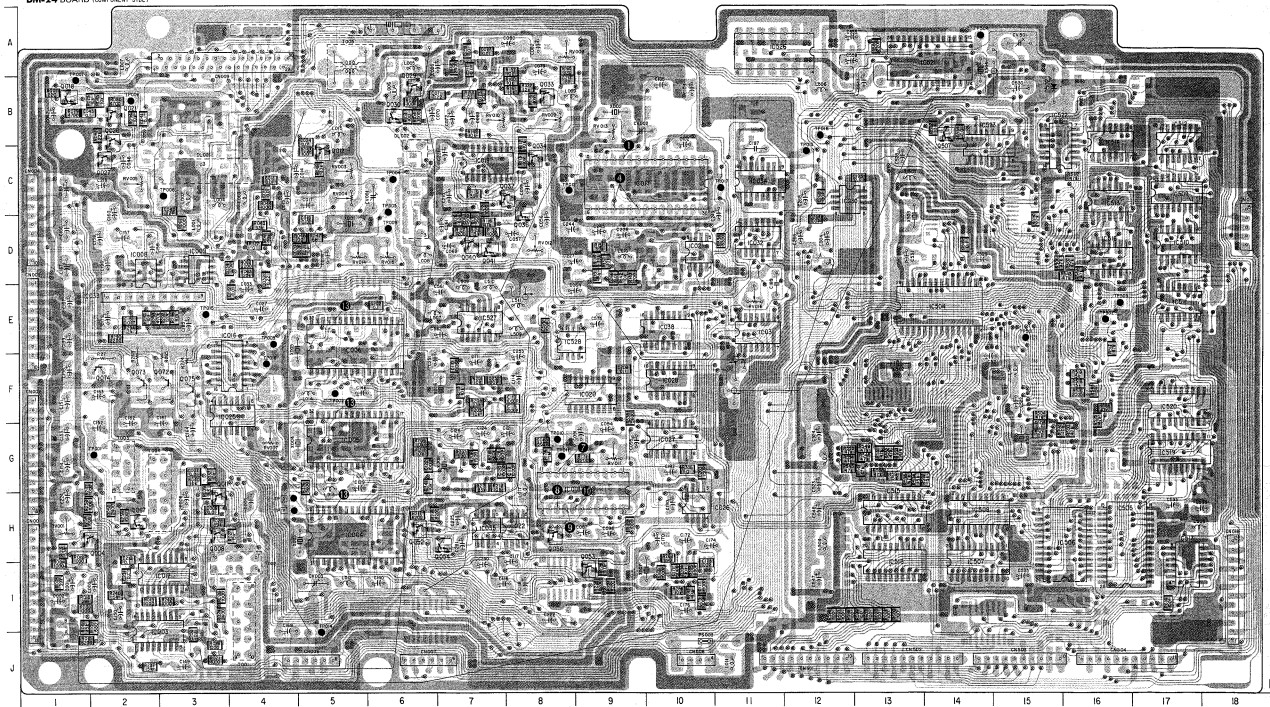
DM-24 (EDIT CONTROL), CO-3 (PAUSE CONTROL), AND CO-4 (PAUSE OUT) PRINTED WIRING BOARDS

— Ref. No. DM-24 BOARD: 6,000 series, CO-3 and CO-4 BOARDS: 8,000 series —

DM-24 BOARD

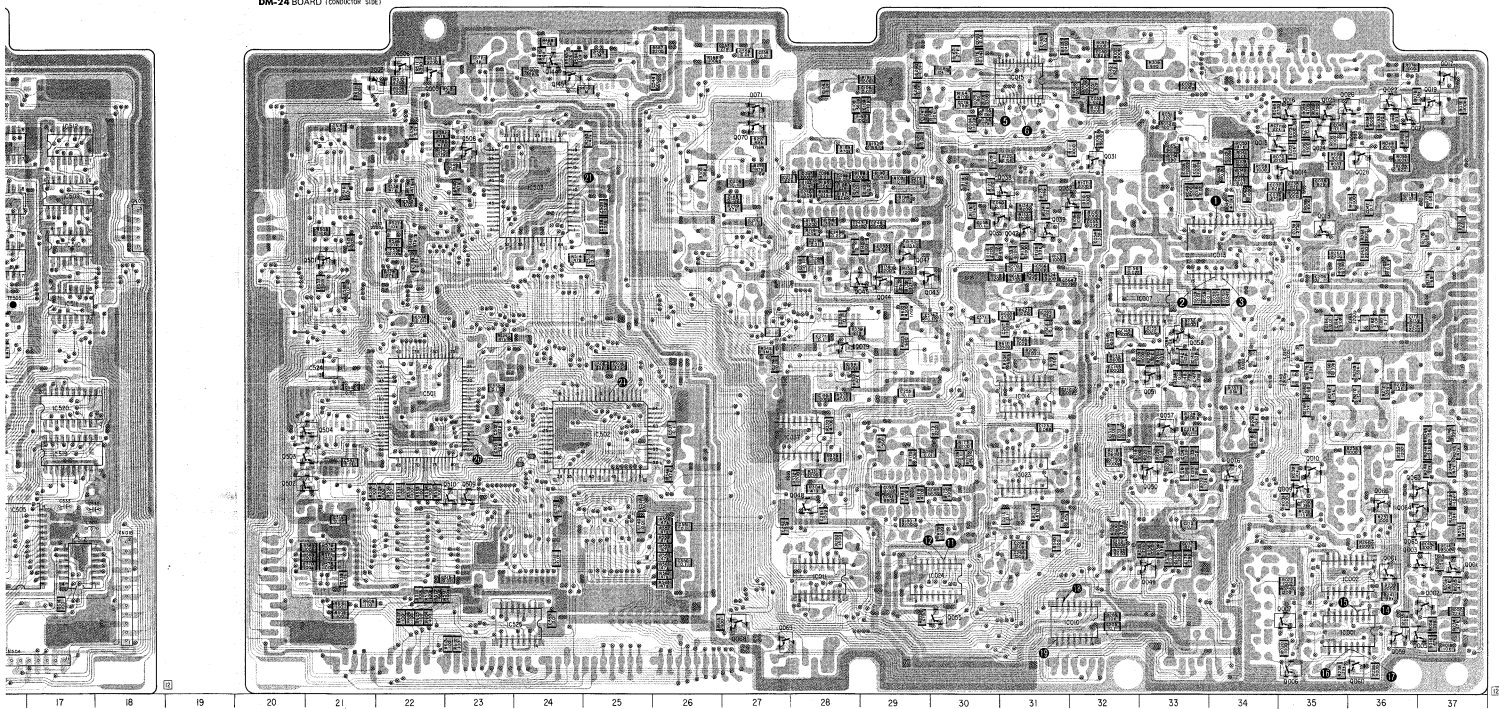
CN001	H1	Q001	I37	RV001	H1
CN002	F1	Q002	I37	RV003	C5
CN003	E1	Q003	H37	RV004	C5
CN004	C1	Q004	H2	RV005	C2
CN006	J5	Q005	J37	RV007	G4
CN007	J6	Q006	J35	RV008	A8
CN008	J10	Q007	J35	RV009	B8
CN009	A3	Q008	H3	RV010	B7
CN010	H18	Q009	G35	RV011	G9
CN019	D18	Q010	G35	RV012	D8
CN502	J13	Q011	H3	RV013	B9
CN503	J13	Q012	C3	RV014	D5
CN503	J15	Q013	D35	RV015	D6
CN504	J16	Q014	C30	RV016	E11
		Q015	B35		
CV001	C6	Q016	B35	TP001	G2
CV002	B9	Q017	B37	TP002	F5
CV003	I5	Q018	B1	TP003	E4
CV051	A15	Q019	B37	TP004	C6
		Q020	B2	TP005	C6
DS02	B15	Q021	B2	TP006	B2
DS03	B22	Q022	B36	TP007	B1
		Q023	B36	TP008	C3
IC001	I36	Q024	B35	TP009	D4
IC002	I36	Q025	B35	TP010	G8
IC003	I3	Q026	B36	TP011	G8
IC004	H5	Q027	C2	TP012	C8
IC005	B5	Q028	C36	TP013	C12
IC006	E5	Q029	B6	TP014	J5
IC007	E33	Q030	B6	TP015	E3
IC008	C3	Q031	C32	TP016	F4
IC009	D3	Q032	C32	TP017	C11
IC010	I32	Q033	C8	TP018	B12
IC011	I28	Q034	C8	TP501	E15
IC012	I3	Q035	D31	TP502	E16
IC013	D34	Q036	C8	TP503	E16
IC014	F31	Q037	C8	TP504	A14
IC015	B31	Q038	C31		
IC016	F4	Q039	D31	TP10	H4
IC017	C10	Q040	D7	TP11	H4
IC018	G9	Q041	D7		
IC019	C7	Q042	D31		
IC020	F8	Q043	D30		
IC021	D10	Q044	D29		
IC022	H9	Q045	D29		
IC023	D31	Q047	D29		
IC024	I30	Q048	H28		
IC025	F4	Q049	I33		
IC026	H10	Q050	G33		
IC027	G10	Q051	F33		
IC028	F10	Q052	H6		
IC030	C12	Q053	I9		
IC031	E11	Q054	H7		
IC032	D11	Q055	I30		
IC033	E2	Q056	H6		
IC034	C11	Q057	G33		
IC035	H7	Q058	E33		
IC037	G28	Q059	B6		
IC038	E10	Q060	J36		
IC501	F22	Q061	B6		
IC502	G25	Q063	G37		
IC503	C24	Q064	H37		
IC504	E14	Q065	H37		
IC505	H16	Q066	H36		
IC506	H16	Q067	H2		
IC507	H14	Q068	I27		
IC508	H14	Q069	I27		
IC509	C17	Q070	B27		
IC510	D17	Q071	B27		
IC511	E17	Q072	F3		
IC512	B17	Q073	F2		
IC513	C16	Q074	F2		
IC514	B16	Q075	F3		
IC515	H13	Q076	D34		
IC516	D16	Q079	E26		
IC517	H17	Q144	A24		
IC518	H13	Q145	A24		
IC519	G17	Q501	D21		
IC520	F17	Q502	D21		
IC521	A14	Q503	D21		
IC522	B15	Q504	G21		
IC523	B14	Q505	A22		
IC524	F21	Q506	A22		
IC525	I24	Q507	B14		
IC526	A11	Q508	C23		
IC527	E7	Q509	H23		
IC528	C8	Q510	H23		

DM-24 BOARD (COMPONENT SIDE)



EDITOR BLOCK

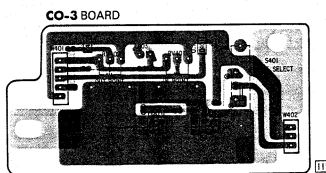
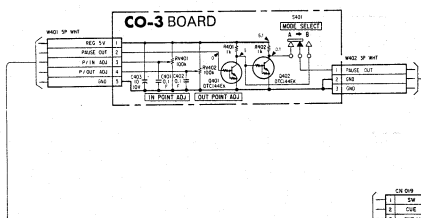
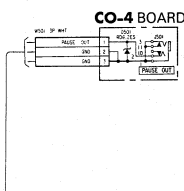
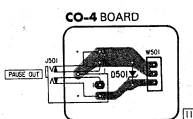
DM-24 BOARD (CONNECTOR SIDE)



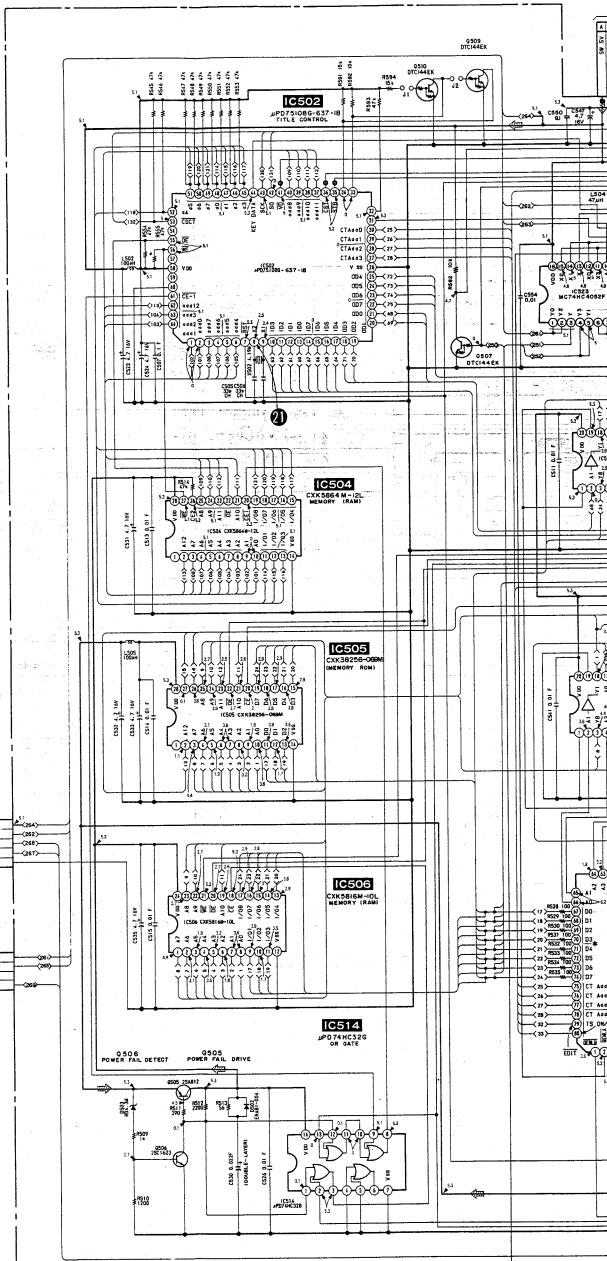
DM-24 (EDIT CONTROL, CO-3 (PAUSE CONTROL), AND CO-4 (PAUSE OUT) SCHEMATIC DIAGRAM

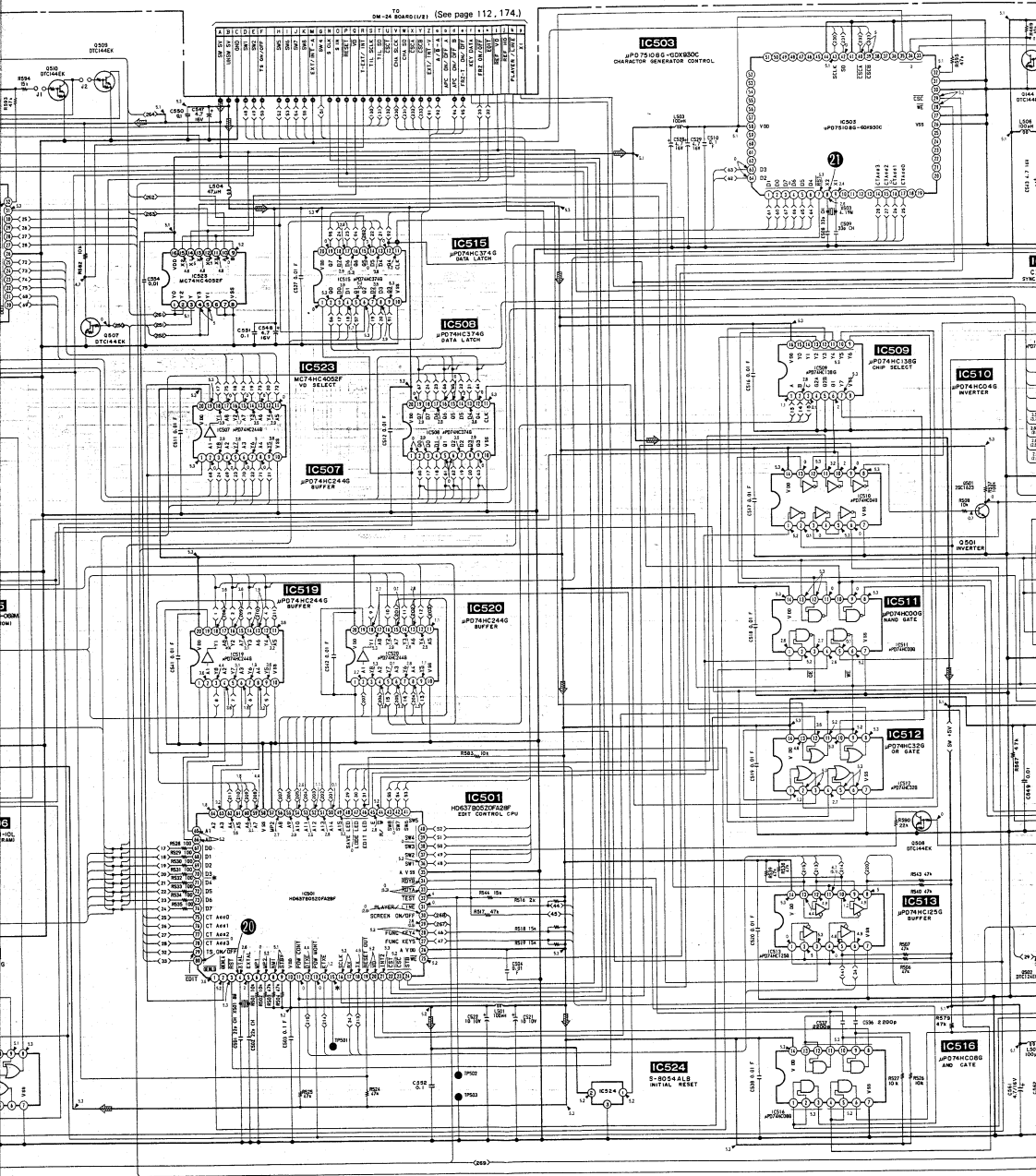
— Ref. No. DM-24 BOARD: 6,000 series, CO-3 and CO-4 BOARDS: 8,000 series —

EDITOR BLOCK

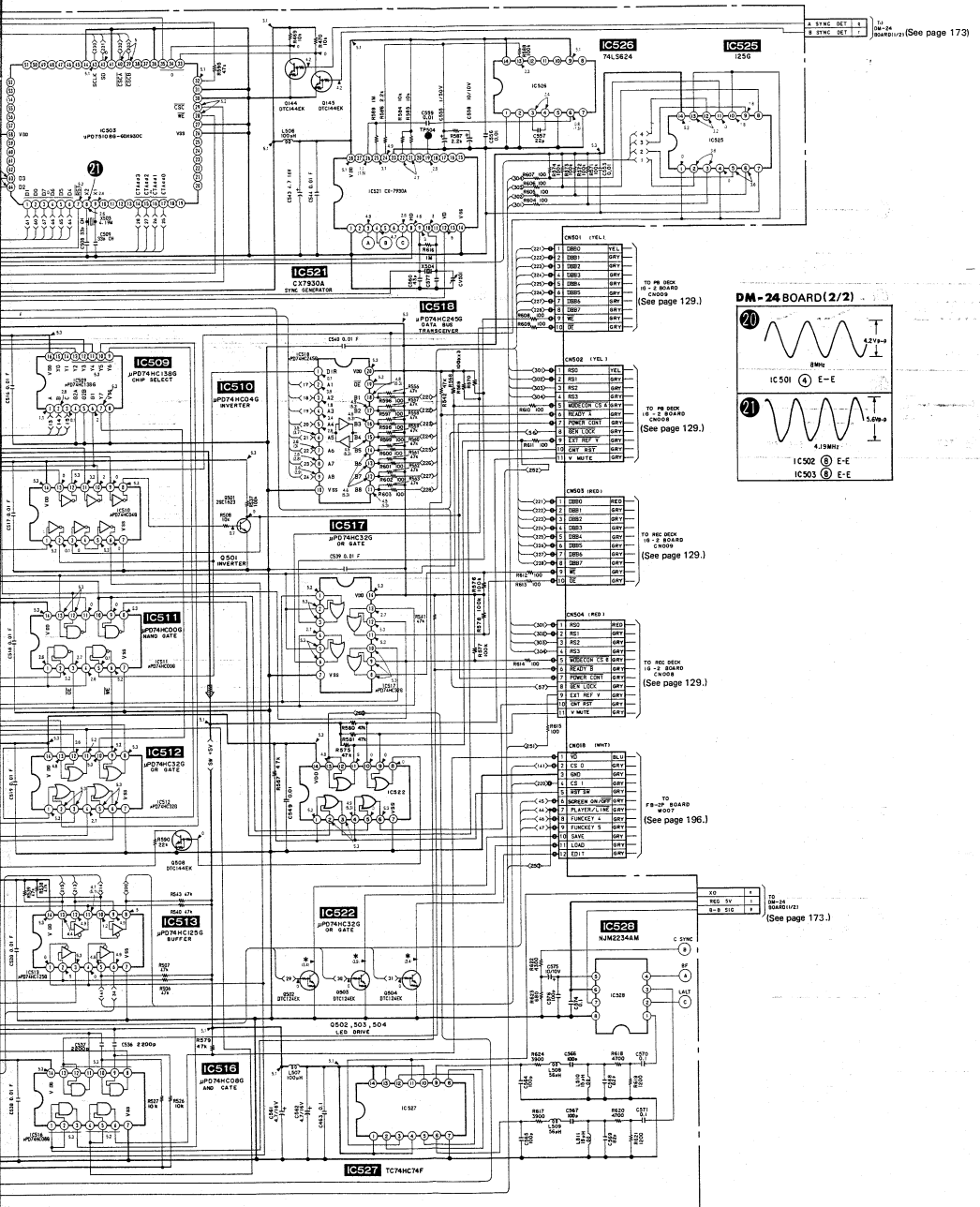


(See page 173.)







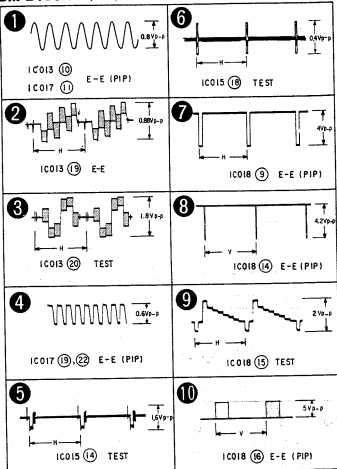


DM-24 (DIGITAL PICTURE) SCHEMATIC DIAGRAM

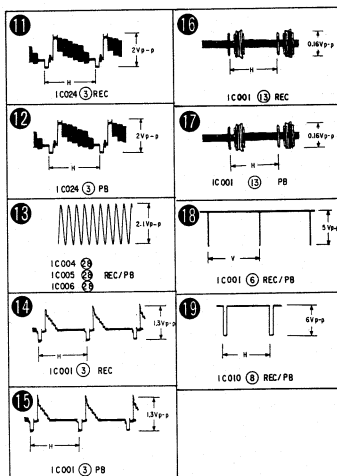
- Ref. No. DM-24 BOARD: 6,000 series -

EDITOR BLOCK

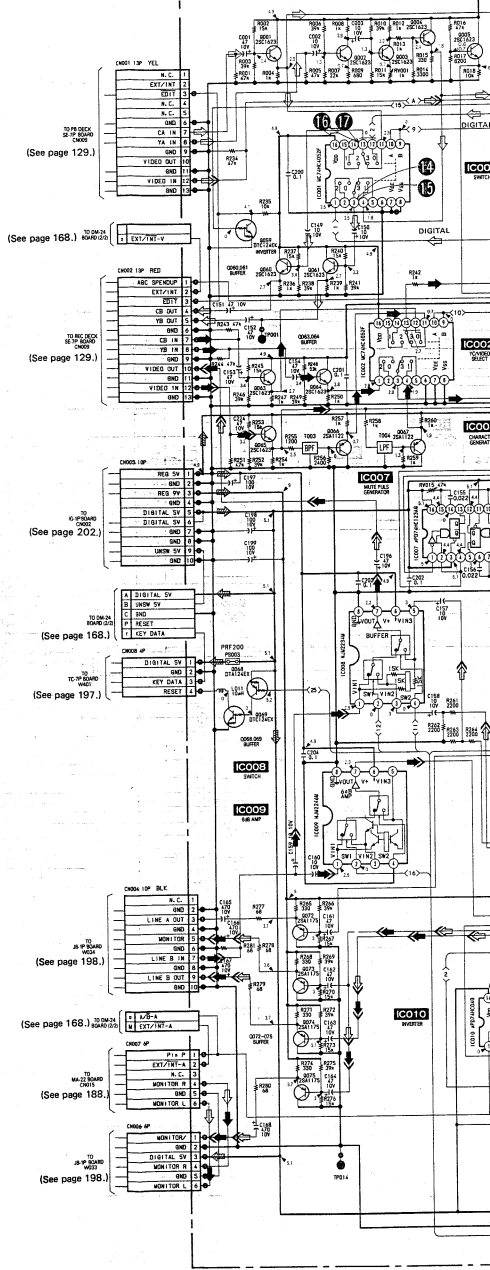
DM-24 BOARD (1/2)



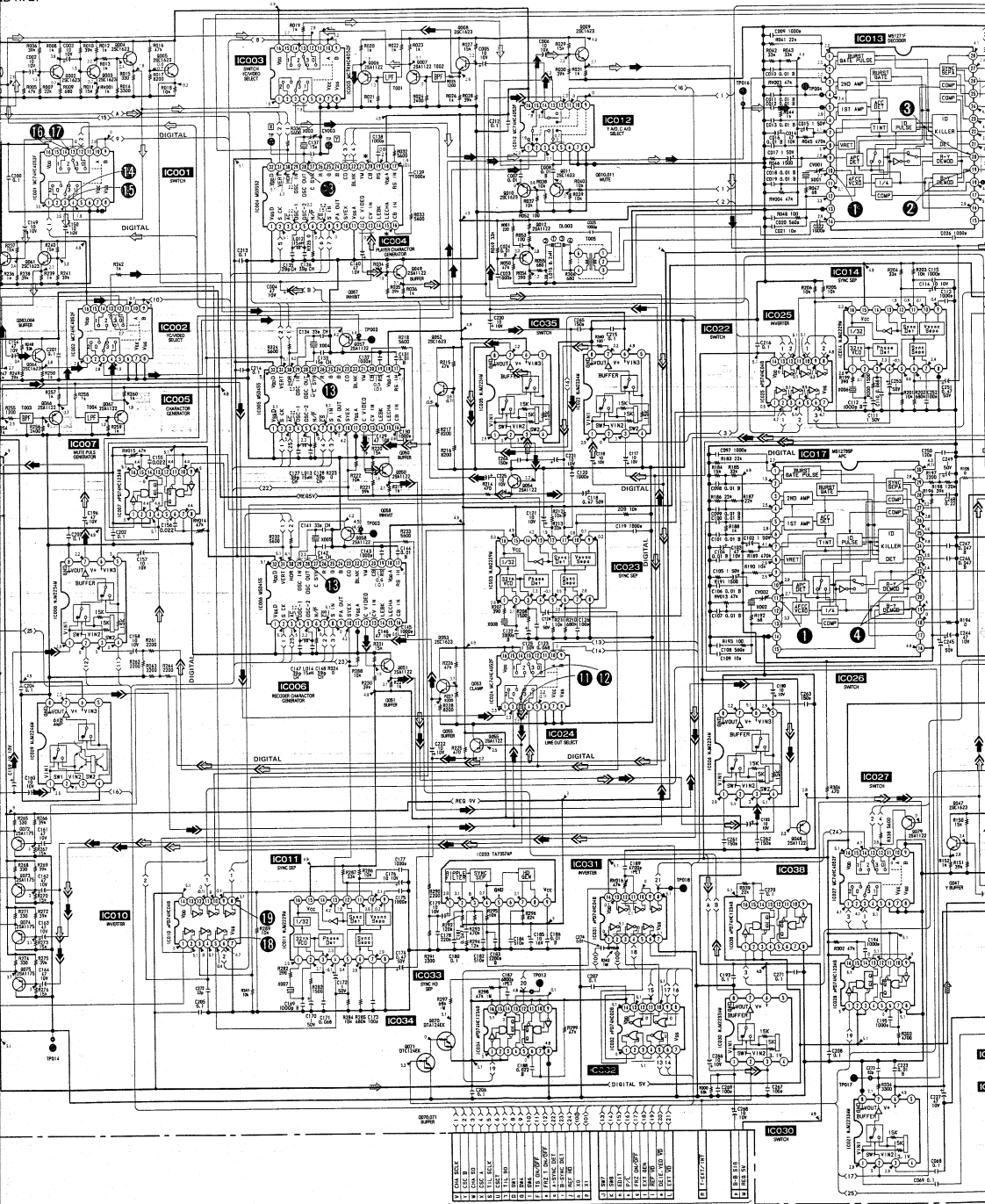
- ➡ : REC Y/CHROMA Signal
- ➡ : PB Y/CHROMA Signal
- ➡ : REC Y Signal
- ➡ : PB Y Signal
- ➡ : REC CHROMA Signal
- ➡ : PB CHROMA Signal
- ➡ : REC AUDIO Signal
- ➡ : PB AUDIO Signal



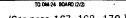
DM-24 BOARD (1/2)



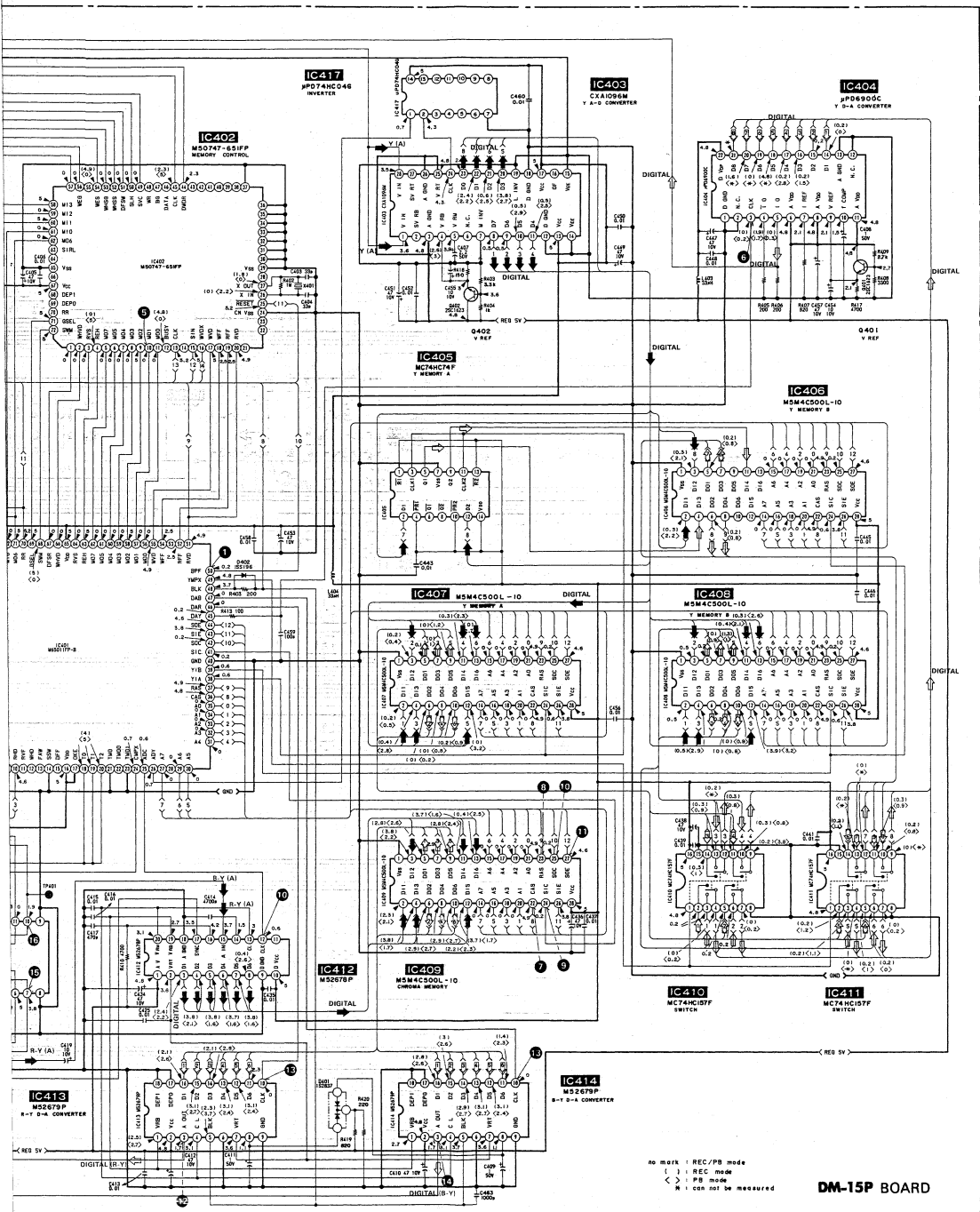
ID (1/2)



(See page 167, 168, 170.)

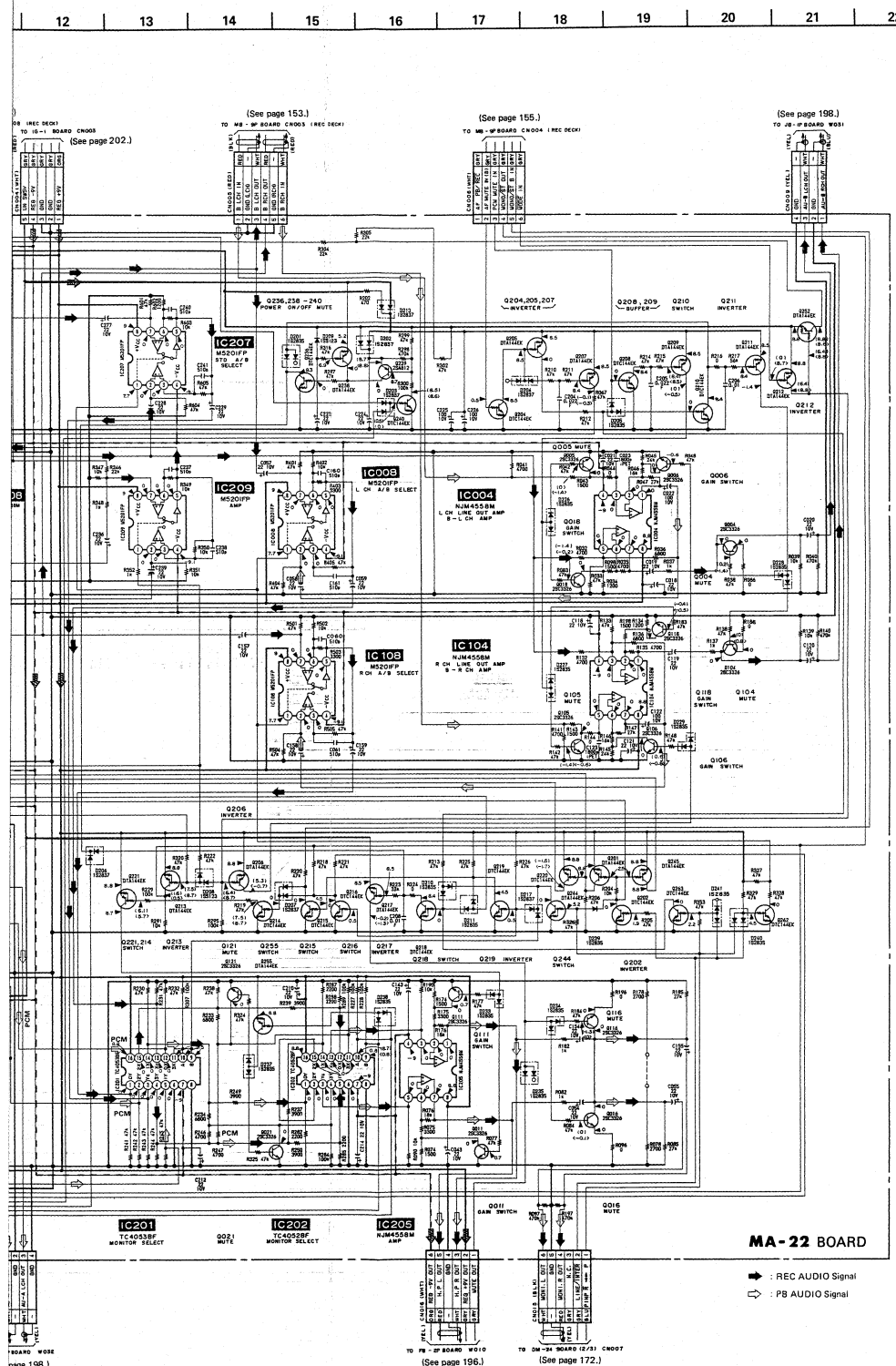






EDITOR BLOCK





MA-22 (MAIN AUDIO SWITCH) PRINTED WIRING BOARD

— Ref. No. MA-22 BOARD: 7,000 series —

EDITOR BLOCK

MA-22 BOARD

CN001 A-5
CN002 A-2
CN003 A-6
CN004 A-7
CN005 A-10
CN006 A-10
CN010 G-12
CN011 G-12
CN012 E-12
CN013 G-12
CN014 A-9
CN015 E-2
CN016 H-12

D001 B-23
D002 B-23
D003 B-16
D004 B-16
D005 B-17
D006 B-16
D007 B-16
D008 B-16
D009 A-7
D010 D-17
D011 D-17
D012 D-26
D013 B-20
D014 H-17
D015 C-14
D016 B-15
D017 H-17
D018 B-23
D019 B-23
D020 G-24
D021 G-24
D022 D-22
D023 C-19
D024 D-25
D025 J-25
D026 J-25
D027 H-35
D028 J-25
D029 J-25
D030 B-18
D031 B-18
D032 B-18
D033 F-18
D034 H-15
D035 H-15
D036 H-15
D037 H-15
D038 F-15
D039 J-22
D040 J-22
D041 K-21
D042 G-22
D043 G-22
D044 H-22

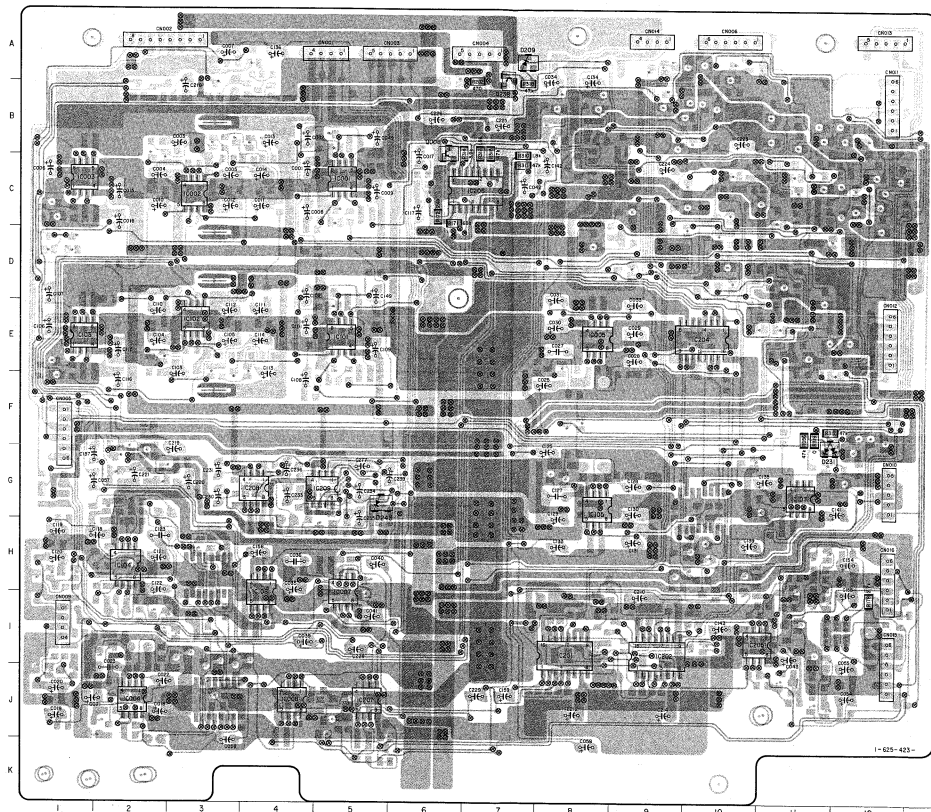
IC001 C-5
IC002 C-3
IC003 E-3
IC004 E-3
IC005 H-5
IC006 E-3
IC007 H-5
IC008 E-3
IC009 E-3
IC010 E-5
IC011 E-5
IC012 E-5
IC013 E-1
IC014 E-1
IC015 G-8
IC016 H-4
IC017 H-4
IC018 H-4
IC019 H-4
IC020 H-4
IC021 H-4
IC022 H-4
IC023 H-4
IC024 H-4
IC025 H-4
IC026 H-4
IC027 H-4
IC028 H-4
IC029 G-5

Q001 B-24
Q002 A-24
Q003 C-26
Q004 J-26
Q005 J-26
Q006 J-26
Q007 J-26
Q008 J-26
Q009 E-19
Q010 B-19
Q011 H-21
Q012 B-22
Q013 B-22
Q014 B-22
Q015 J-15
Q016 J-15

Q017 F-18
Q018 E-24
Q019 E-24
Q020 H-25
Q021 H-25
Q022 H-25
Q023 H-25
Q024 H-25
Q025 H-25
Q026 H-25
Q027 H-25
Q028 H-25
Q029 H-25
Q030 H-25
Q031 H-25
Q032 H-25
Q033 H-25
Q034 H-25
Q035 H-25
Q036 H-25
Q037 H-25
Q038 H-25
Q039 H-25
Q040 H-25
Q041 H-25
Q042 H-25
Q043 H-25
Q044 H-25
Q045 H-25
Q046 H-25
Q047 H-25
Q048 H-25
Q049 H-25
Q050 H-25
Q051 H-25
Q052 H-25
Q053 H-25
Q054 H-25
Q055 H-25
Q056 H-25
Q057 H-25
Q058 H-25
Q059 H-25
Q060 H-25
Q061 H-25
Q062 H-25
Q063 H-25
Q064 H-25
Q065 H-25

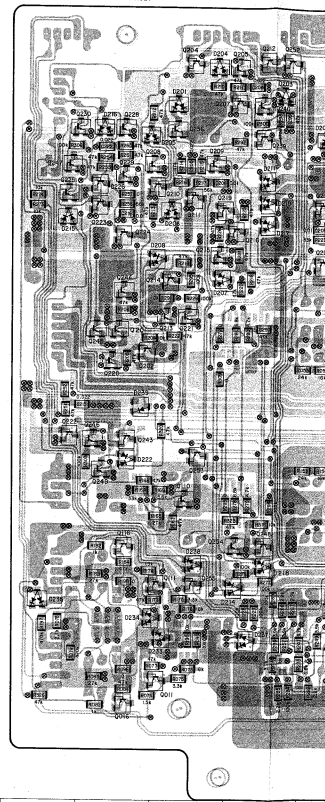
Q066 H-25
Q067 H-25
Q068 H-25
Q069 H-25
Q070 H-25
Q071 H-25
Q072 H-25
Q073 H-25
Q074 H-25
Q075 H-25
Q076 H-25
Q077 H-25
Q078 H-25
Q079 H-25
Q080 H-25
Q081 H-25
Q082 H-25
Q083 H-25
Q084 H-25
Q085 H-25
Q086 H-25
Q087 H-25
Q088 H-25
Q089 H-25
Q090 H-25
Q091 H-25
Q092 H-25
Q093 H-25
Q094 H-25
Q095 H-25
Q096 H-25
Q097 H-25
Q098 H-25
Q099 H-25
Q100 H-25

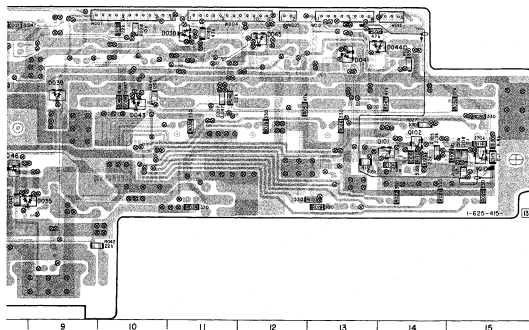
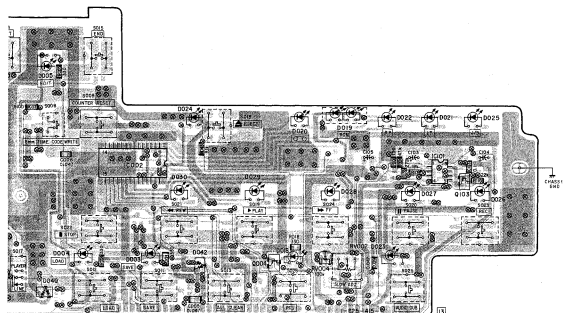
MA-22 BOARD (COMPONENT SIDE)



1-529-423

MA-22 BOARD (CONDUCTOR SIDE)

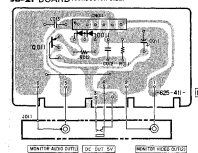




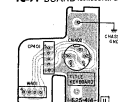
TR-26P BOARD (CONDUCTOR SIDE)



JB-2P BOARD (CONDUCTOR SIDE)



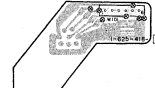
TC-7P BOARD (CONDUCTOR SIDE)



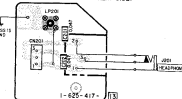
CC-11 BOARD (COMPONENT SIDE)



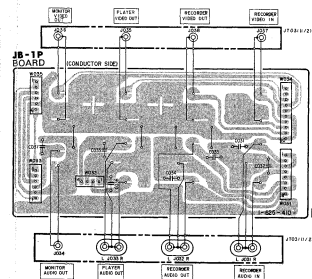
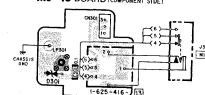
CC-11 BOARD (CONDUCTOR SIDE)



HE-1 BOARD (COMPONENT SIDE)



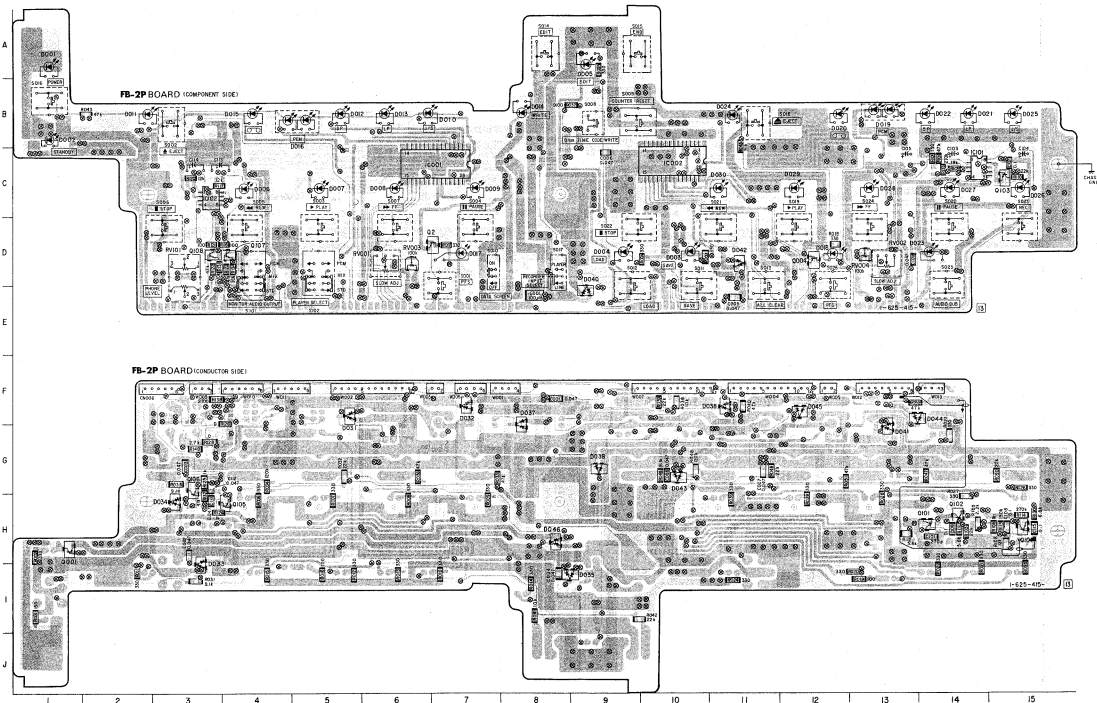
MJ-15 BOARD (COMPONENT SIDE)



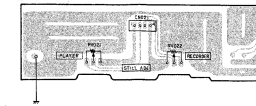
EDITOR BLOCK

FB-2P BOARD
DN006 F.2

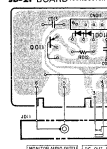
D001 A.1
 D002 B.1
 D003 D.10
 D004 D.9
 D005 A.9
 D006 C.4
 D007 C.5
 D008 C.6
 D009 C.7
 D010 B.7
 D011 B.2
 D012 B.5
 D013 B.6
 D014 B.8
 D015 B.4
 D016 B.5
 D017 D.7
 D018 D.12
 D019 B.13
 D020 B.12
 D021 B.14
 D022 B.14
 D023 D.14
 D024 B.11
 D025 B.15
 D026 C.15
 D027 C.14
 D028 C.13
 D029 C.12
 D030 C.11
 D031 F.5
 D032 F.7
 D033 H.3
 D034 H.3
 D035 I.9
 D037 F.8
 D038 F.11
 D039 G.9
 D040 D.9
 D041 F.13
 D042 D.11
 D043 G.10
 D044 F.14
 D045 F.12
 D046 H.5
 IC001 C.7
 IC002 C.10
 IC101 C.14
 IC102 C.3
 Q001 H.1
 Q002 D.7
 Q004 D.12
 Q101 H.14
 Q102 H.14
 Q103 C.15
 Q104 H.15
 Q105 H.4
 Q106 G.3
 Q107 D.4
 Q108 D.3
 RV001 D.6
 RV002 D.13
 RV003 D.6
 RV004 D.13
 RV101 D.3
 W001 F.7
 W002 F.6
 W004 F.11
 W007 F.10
 W008 F.7
 W009 F.3
 W010 F.4
 W011 F.4
 W012 F.13
 W013 F.14



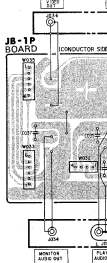
TR-26P BOARD (CONDUCTOR SIDE)

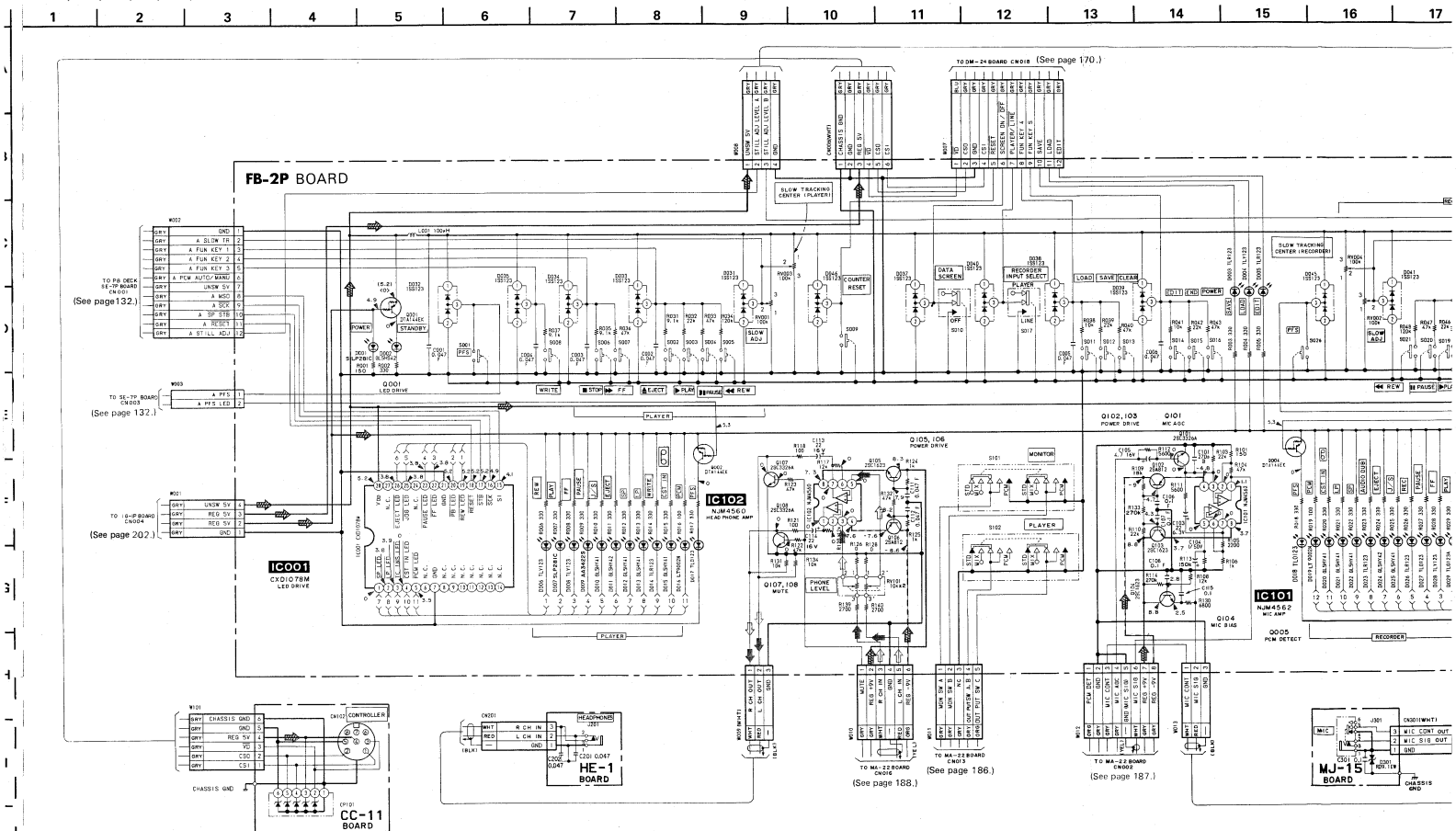


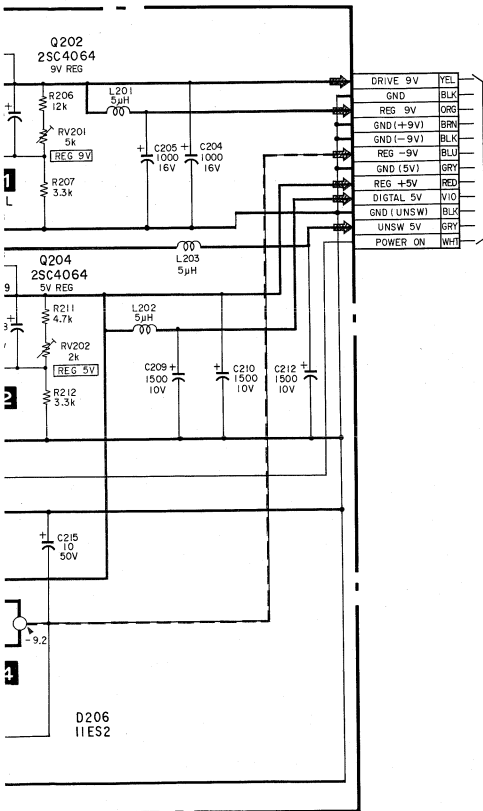
JB-2P BOARD (CONDUCTOR SIDE)



JB-1P BOARD (CONDUCTOR SIDE)

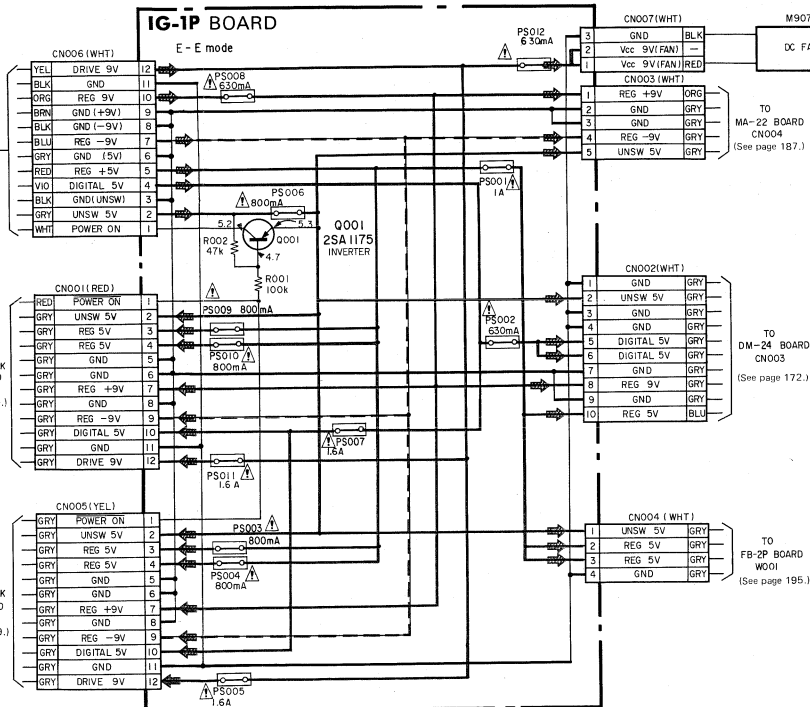






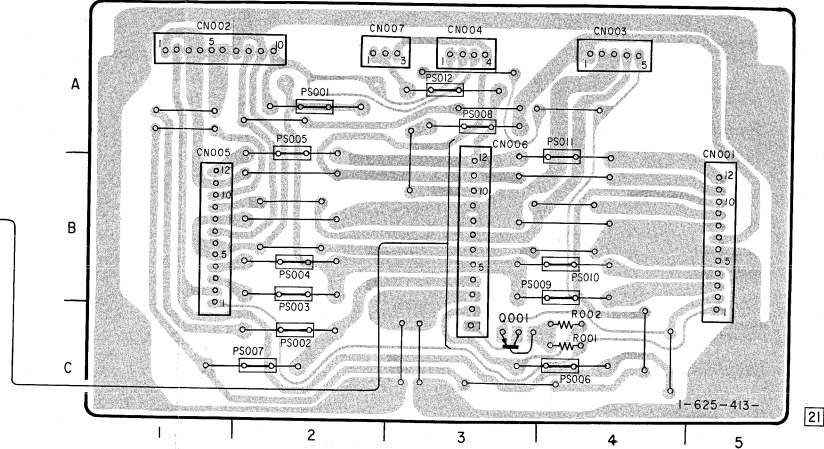
TO REC DECK
SE-7P BOARD
CNO11
(See page 129.)

TO P8 DECK
SE-7P BOARD
CNO11
(See page 129.)



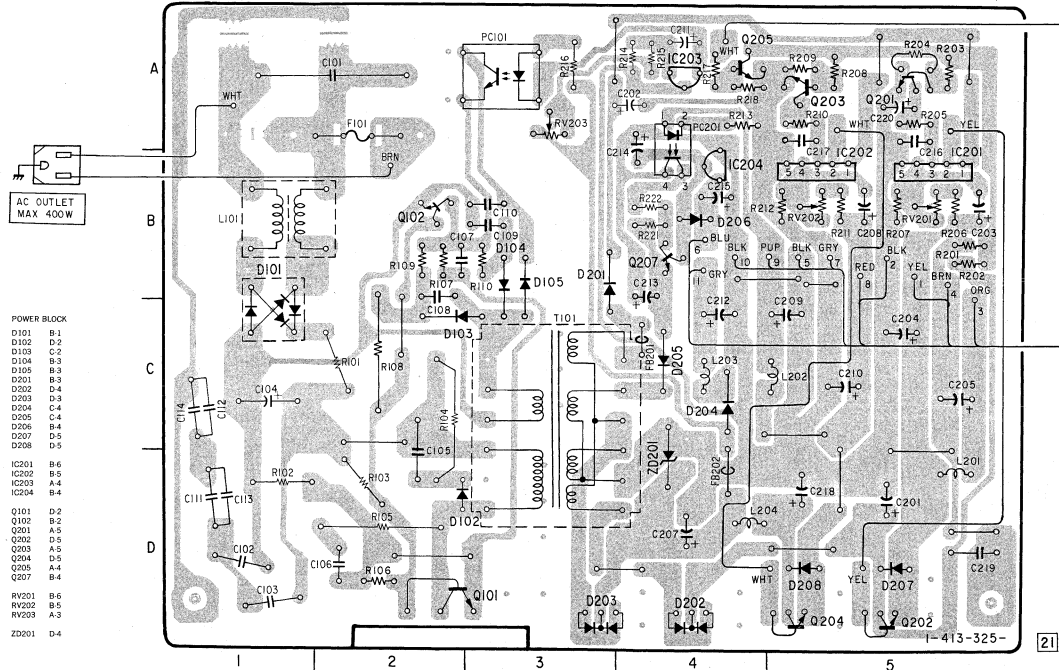
no mark : E-E mode
() : The voltage in the () side
the value between
C104(-) side

IG-1P BOARD (CONDUCTOR SIDE)

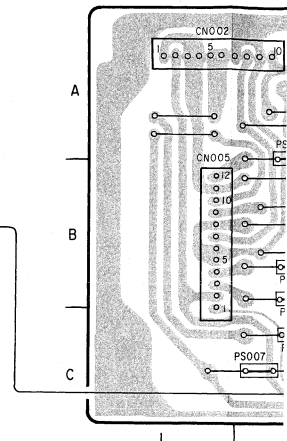


EDITOR BLOCK

POWER BLOCK (SR-89 BOARD) (CONDUCTOR SIDE)



IG-1P BOARD (CONDUCTOR SIDE)



4-3. SEMICONDUCTORS

BA401



BA7036LS



CF77309FR



CX20030

CX20031

CX20032

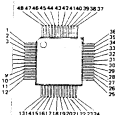
CX20034

CX23011

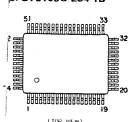
CX23054

CXD1066Q-Z

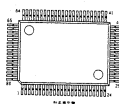
MB674169U



CF77305FT
 CXP5024H-0410
 CXP5048H-182Q
 CXP5048H-183Q
 MB674101PF
 μPD75104G-E35-1B
 μPD75106G-E35-1B
 μPD75108G-E34-1B



HD638052O-A82F



LB1616M



MSM4C500L



M50455-079FP

M50552-122FP



M50747-651FP



M65011FP-D



NJM2234M

NJM4562M



TA7357AP



TL431CLPB

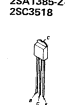


2SA1175

2SC2785



2SA1385-Z-L



NJL7141E



ERA81-005



GP2509-B



MA-159



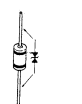
MC931



RD6.2ES-B2



RD9.1E-W



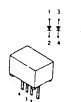
GL-5HS42
 GL-5HY41
 GL-5HY42



GL-450S



LT-9002N



AA3422S

SLP2810C-50

TLG123A

TLR123

TLY123

SECTION 5
EXPLODED VIEWS

NOTE:

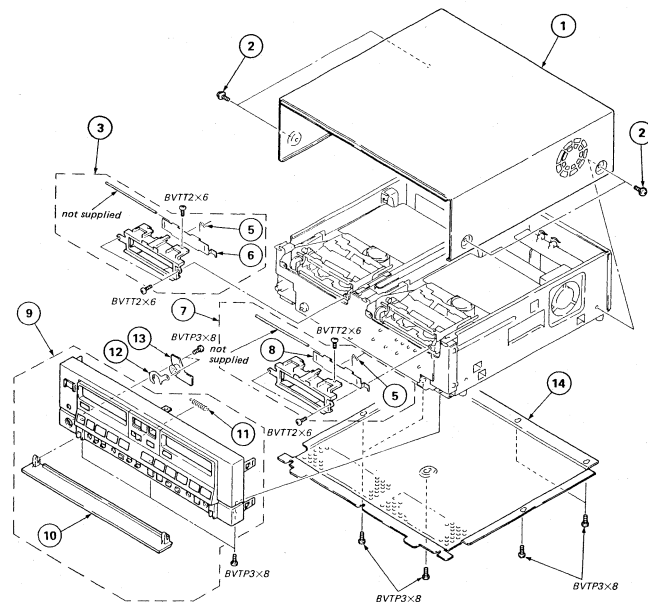
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

The components identified by mark **A** or dotted line with mark **A** are critical for safety. Replace only with part number specified.

5-2. PC

5-1. FRONT PANEL AND CABINET ASSEMBLIES

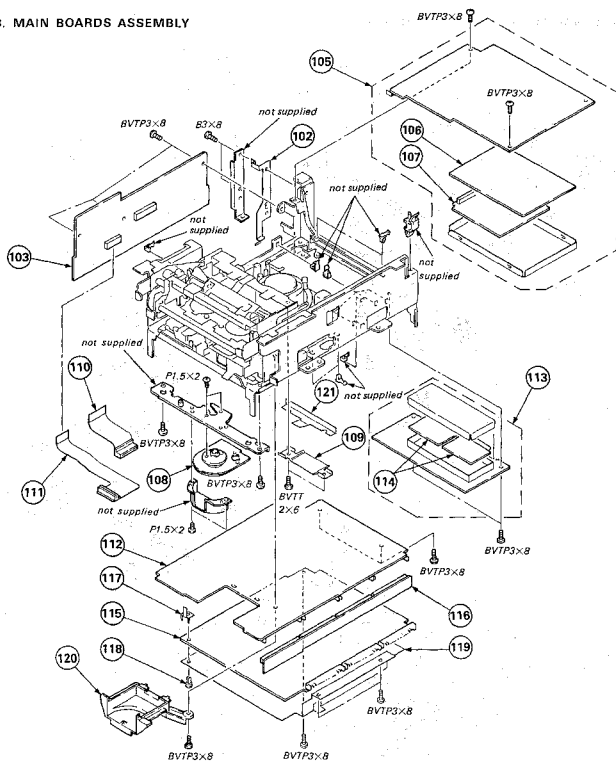


No.	Part No.	Description
1	*3-724-167-01	CASE, UPPER
2	4-886-821-11	SCREW, M3 CASE
3	X-3689-097-1	WINDOW ASSY (P)
5	3-695-766-01	SPRING, TORSION
6	3-721-101-11	DOOR (PLAYER)
7	X-3689-096-1	WINDOW ASSY (R)
8	3-721-101-21	DOOR (RECORDER)

Remark	No.	Part No.	Description	Remark
	9	X-3691-919-1	PANEL ASSY, FRONT	10, 11
	10	X-3691-918-1	DOOR ASSY	
5, 6	11	3-689-531-01	SPRING, TENSION	
	12	*3-724-111-01	HOLDER, CONNECTOR	
	13	*A-7070-620-A	CC-11 BOARD, COMPLETE	
5, 8	14	*3-724-168-01	PLATE, BOTTOM	

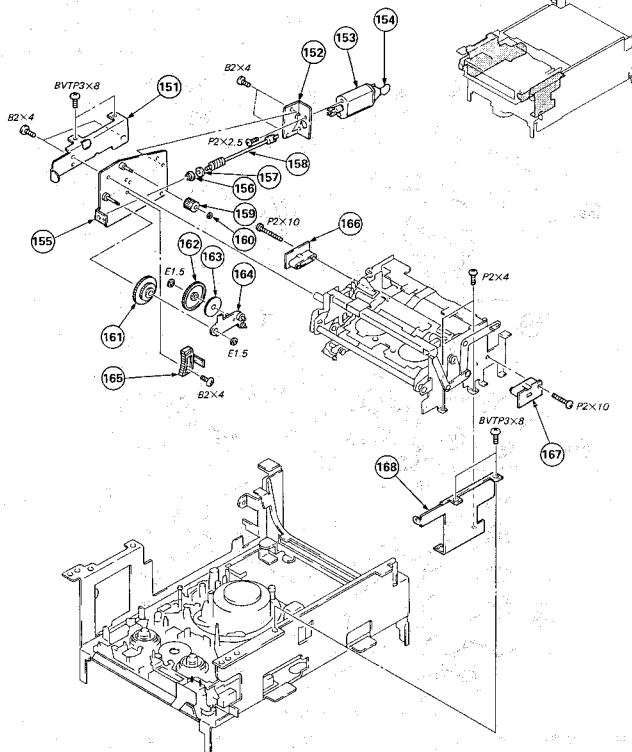
No.	Pa
51	A-1-
54	A-1-
55	9-
56	*3-
57	*3-
58	*A-
59	*3-
60	*A-
61	3-
62	*A-
63	*A-
64	*A-
65	*A-
66	3-

3. MAIN BOARDS ASSEMBLY



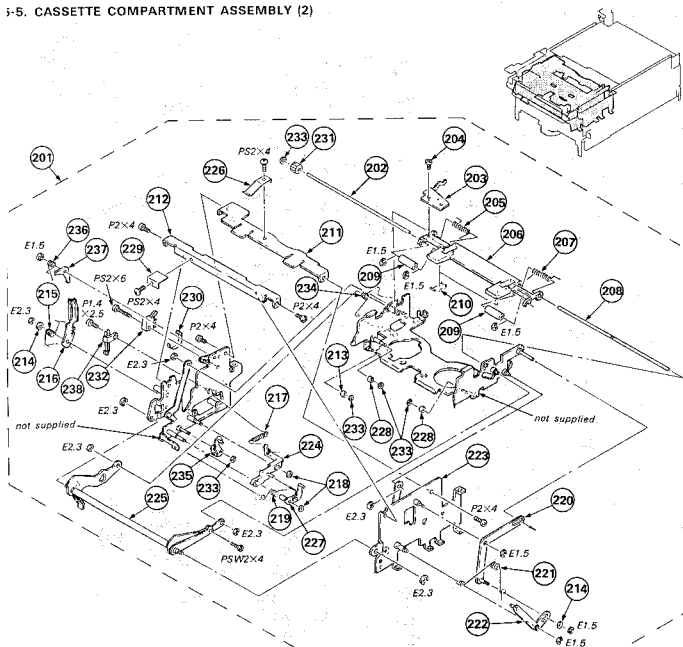
No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
102	*3-724-105-01	PLATE, LOCK, PC BOARD		113	*A-7061-502-A	FR-3D (P) BOARD, COMPLETE	114
103	*A-7061-500-A	MD-18 (P) BOARD, COMPLETE	110, 111	114	*A-7061-503-A	RP-52 (P) BOARD, COMPLETE	
105	*A-7061-505-A	MB-9 (P) BOARD, COMPLETE	106, 107	115	*A-7061-501-A	HK-3 BOARD, COMPLETE	
106	*A-7061-506-A	PD-16 (P) BOARD, COMPLETE		116	*A-7070-623-B	IG-2 BOARD, COMPLETE	
107	*A-7061-048-A	PA-11 (P) BOARD, COMPLETE		117	*3-724-107-01	RETAINER, PC BOARD	
108	B-835-304-01	MOTOR, DC U-118 (REEL MOTOR) (M902)		118	3-531-575-01	RIVET	
109	*3-724-125-01	RETAINER, FLEXIBLE		119	*3-724-175-01	PLATE, SHIELD, CORE	
110	*A-7070-624-A	FP-84 BOARD, COMPLETE		120	*3-697-992-01	GUARD, REEL MOTOR	
111	*A-7070-625-A	FP-122 BOARD, COMPLETE		121	*3-724-106-01	PLATE, GUARD, FLEXIBLE	
112	*A-7061-504-A	SE-7 (P) BOARD, COMPLETE	116				

5-4. CASSETTE COMPARTMENT ASSEMBLY (1)



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
151	*3-724-140-01	BRACKET (LEFT)		160	3-669-465-00	WASHER (1.5), STOPPER	
152	*3-713-431-01	BRACKET, MOTOR		161	3-713-433-01	GEAR (A)	
153	X-3711-936-1	MOTOR ASSY, FL (CASSETTE LOADING) (M904)		162	3-713-430-01	GEAR (B)	
154	1-161-057-00	CAP, CERAMIC 0.033MF X		163	*3-713-441-01	SPRING, LEAF	
155	*X-3711-934-1	PLATE SUB ASSY, BLOCK		164	X-3714-193-1	LEVER ASSY (B), GEAR	
156	3-713-439-01	BEARING		165	3-724-913-02	RACK	
157	3-701-437-11	WASHER		166	*A-7070-628-A	TS-74 (LEFT) BOARD, COMPLETE	
158	X-3711-935-3	SHAFT ASSY, WORM		167	*A-7070-627-A	TS-74 (RIGHT) BOARD, COMPLETE	
159	3-713-452-01	GEAR (C)		168	*3-724-141-01	BRACKET (RIGHT)	

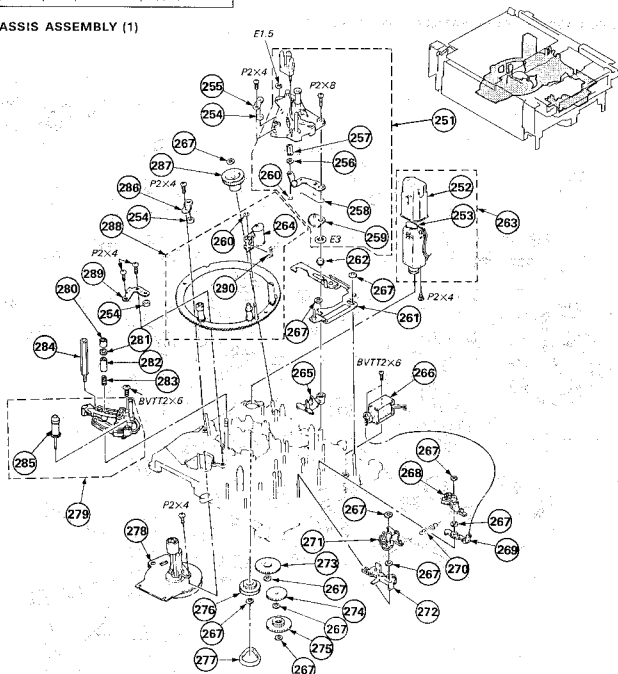
3-5. CASSETTE COMPARTMENT ASSEMBLY (2)



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
201	A-7090-558-F	CASSETTE COMPARTMENT BLOCK ASSY	202-238	220	X-3711-930-1	LEVER ASSY, HOLDER	
202	*3-713-440-01	SHAFT, ROLLER		221	3-713-628-01	SPRING, TORSION	
203	3-713-492-01	PLATE, FUNCTION, LEVER		222	X-3711-931-4	LEVER ASSY, DOOR	
204	3-713-622-01	SCREW (M1.3X4), TAPPING, D		223	*X-3711-932-1	PLATE (R) ASSY, SIDE	
205	3-713-445-01	SPRING (LEFT)		224	3-721-136-01	SLIDER, LOCK	
206	3-713-625-01	COVER, MULTI		225	*X-3711-937-1	JOINT ASSY	
207	3-713-442-01	SPRING (RIGHT)		226	3-713-658-01	SPRING	
208	*3-713-457-01	SHAFT, JOINT		227	3-686-692-01	PREVENTION, SLIDER	
209	3-713-466-01	ROLLER		228	3-719-590-01	ROLLER, ASSIST	
210	3-713-625-01	SHOE, BRAKE		229	3-716-921-01	SPRING, LEAF	
211	*3-713-462-01	STOPPER, HOLDER		230	*3-337-402-01	BAND, BINDING	
212	*3-713-458-01	REINFORCEMENT		231	3-713-429-01	GEAR (D)	
213	*3-686-893-01	ROLLER, LOCK		232	1-570-407-11	SWITCH, SLIDE (CASSETTE LOADING) (S901)	
214	3-533-073-01	WASHER		233	3-578-265-11	WASHER, STOPPER	
215	3-713-488-01	SPRING (2), TORSION		234	3-713-620-01	SPRING (1), TORSION	
216	3-721-125-01	LEVER, LOCK		235	*X-3686-541-1	CLAW ASSY, LOCK	
217	3-696-047-01	SPRING, TENSION		236	3-721-163-01	SPRING	
218	3-569-465-00	WASHER (1.5), STOPPER		237	3-721-166-01	LEVER, SWITCH	
219	3-686-694-01	SPRING, TORSION		238	1-553-226-00	SWITCH, LEAF (CASSETTE LOCK) (S903)	

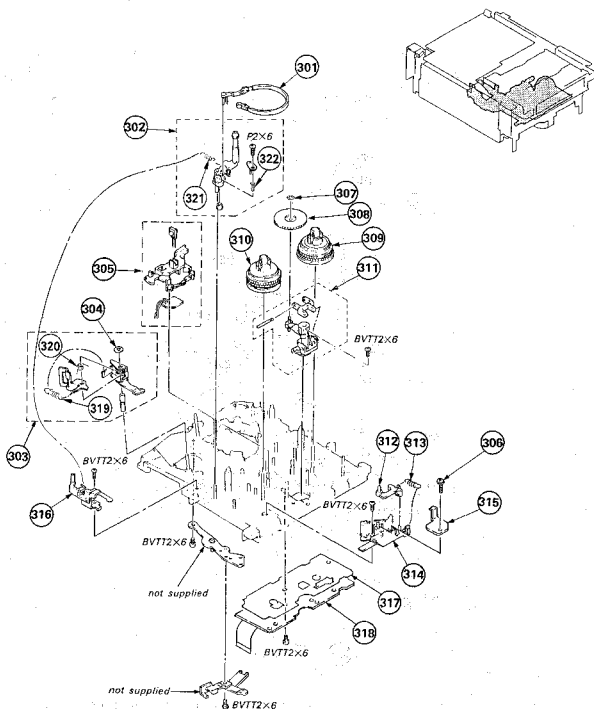
Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

5-6. CHASSIS ASSEMBLY (1)



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
251	A-7040-001-A	GUIDE BLOCK ASSY, SLANT	256-260	271	X-3711-991-1	BRAKE ASSY, S MAIN	
252	*3-686-757-01	CAP, SHIELD, L MOTOR		272	*3-686-629-01	SLIDER, SELECTION, UPPER & LOWER	
253	1-161-057-00	CAP, CERAMIC 0.033MF X (FOR M904, M906)		273	3-686-508-01	GEAR, NO.2	
254	3-697-538-01	ROLLER, RING		274	3-686-545-01	GEAR, NO.3	
255	*3-686-503-01	RETAINER, ROLLER		275	3-686-544-01	GEAR, NO.4	
256	3-701-436-21	WASHER, POLYETHYLENE		276	X-3686-514-1	GEAR ASSY, NO.1	
257	3-686-663-01	WASHER, STOPPER, 2 GANG		277	3-686-546-01	BELT, L- MOTOR	
258	3-686-701-01	SPRING		278	8-835-196-11	MOTOR, DC BHF-2802A (CAPSTAN) (M903)	
259	3-699-509-01	GEAR, SECTOR		279	A-7040-054-A	GUIDE (F) ASSY, ENTRANCE	285
260	3-315-384-31	WASHER, STOPPER		280	3-686-724-01	NUT, GUIDE	
261	A-7040-103-A	SLIDER ASSY, LOCK		281	*3-686-894-01	FLANGE, #3 #4 GUIDE	
262	3-686-537-01	RETAINER, LOCK SLIDER		282	3-686-912-01	GUIDE, #3 #4	
263	A-7040-065-A	MOTOR ASSY, L (LOADING) (M906) 252, 253		283	3-699-609-01	SPRING, COMPRESSION	
264	X-3686-576-3	ARM ASSY, PINCH ROLLER		284	3-686-561-01	SCREW, DRUM GUARD	
265	*3-686-636-04	GEAR, T.S RELEASE		285	X-3686-676-1	GUIDE ASSY, #2	
266	Δ 1-454-377-31	SOLENOID, PLUNGER (PM901)		286	*3-686-911-01	PLATE, TOP, ROLLER	
267	3-669-465-00	WASHER (1.5), STOPPER		287	3-697-518-01	GEAR, NO.10	
268	X-3686-574-1	BRAKE ASSY, MAIN, TAKE-UP		288	A-7040-123-A	RING ASSY, THREADING	260, 264, 290
269	*3-686-635-01	ARM, P		289	*3-686-675-01	STOPPER, RING	
270	3-686-882-01	SPRING, TENSION		290	3-686-566-01	SPRING, TORSION	

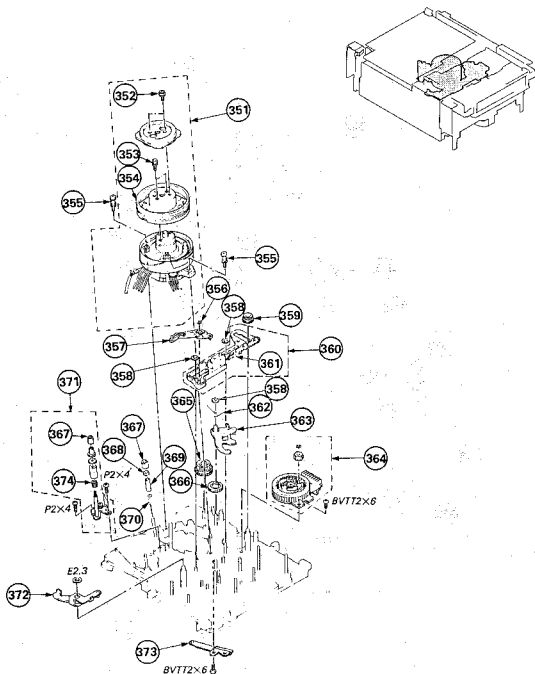
5-7. CHASSIS ASSEMBLY (2)



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
301	X-3686-531-1	BAND ASSY, TENSION REGULATOR		312	*3-686-637-01	BRAKE (S), SOFT	
302	A-7040-071-A	ARM ASSY, TENSION REGULATOR	321, 322	313	3-696-082-01	SPRING, TENSION	
303	A-7040-008-A	ARM ASSY, PINCH PRESS	319, 320	314	*3-686-760-01	GUIDE, BAND	
304	3-669-465-00	WASHER (1.5), STOPPER		315	*3-686-991-01	STOPPER, REEL TABLE	
305	*A-7070-024-A	LD-1 BOARD, COMPLETE		316	*X-3686-625-1	HOOK ASSY, SPRING	
306	3-669-480-11	+ PTPWH 2		317	3-712-411-01	INSULATOR, RS	
307	3-915-384-31	WASHER, STOPPER		318	*A-7061-044-A	RS-28 BOARD, COMPLETE	
308	X-3686-763-1	GEAR (B) ASSY, DRIVING		319	3-686-885-01	SPRING, TENSION	
309	X-3711-998-1	TABLE ASSY, REEL, TAKE-UP		320	3-686-668-01	SPRING, TORSION	
310	X-3713-427-1	TABLE ASSY, REEL, SUPPLY		321	3-699-519-01	SPRING, TENSION	
311	X-3711-963-1	DRIVING COMPLETE ASSY		322	3-669-666-00	SPRING, COMPRESSION	

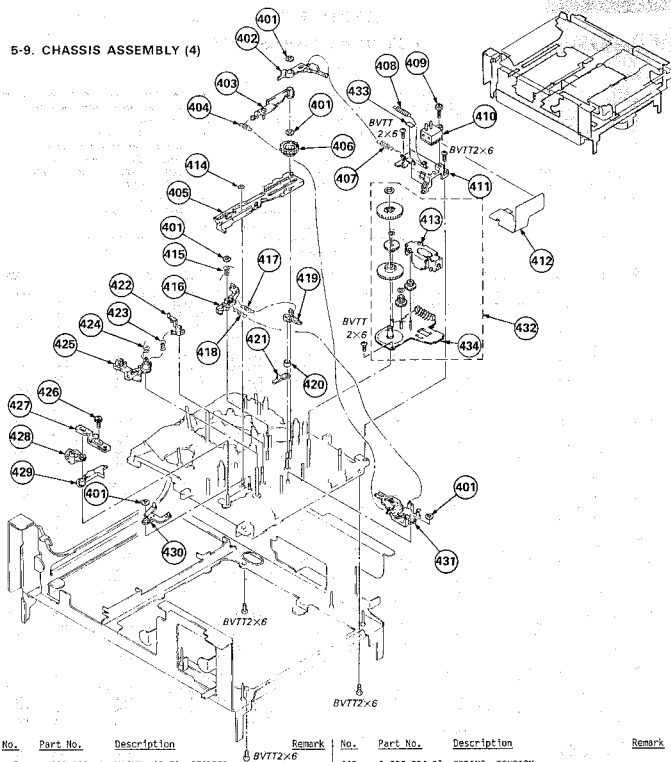
Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

5-8. CHASSIS ASSEMBLY (3)



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
351	Δ A-7048-102-A	DRUM ASSY (DGH-12D-R)	352-354	363	X-3686-579-1	CHANGE ASSY, DRIVE	
352	3-686-422-01	WASHER (2X2.7), BOLT HOLE		364	X-3712-403-1	L-SW ASSY	
353	3-686-403-00	SCREW (2X5), BOLT WASHER		365	3-686-539-01	GEAR, NO.9	
354	A-7049-121-A	DRUM ASSY, ROTARY UPPER (DGR-12-R)		366	3-686-535-01	GEAR, NO.8	
355	X-3686-569-1	SCREW ASSY, FITTING		367	3-686-724-01	NUT, GUIDE	
356	3-315-384-21	WASHER, STOPPER		368	*3-686-894-01	PLANGE, #3 #4 GUIDE	
357	*X-3686-518-3	ARM ASSY		369	3-686-912-01	GUIDE, #3 #4	
358	3-669-465-00	WASHER (1.5), STOPPER		370	3-699-609-01	SPRING, COMPRESSION	
359	3-686-702-01	GEAR, DRIVING, GUIDE, SLANT		371	A-7040-058-A	GUIDE BLOCK COMPLETE ASSY, #5	367, 374
360	*A-7040-010-A	SLIDER ASSY, L	361	372	*X-3686-509-1	LEVER ASSY, PINCH PRESS	
361	3-686-886-01	SPRING, TENSION		373	1-535-535-11	TERMINAL, SHAFT GROUND	
362	3-686-540-01	SPRING, TORSION		374	3-699-514-01	SPRING, COMPRESSION	

5-9. CHASSIS ASSEMBLY (4)



No.	Part No.	Description	Remark
401	3-669-465-00	WASHER (1.5), STOPPER	
402	X-3711-987-2	BRAKE ASSY, T.S	
403	*X-3686-528-4	ARM ASSY, B RELEASE	
404	3-686-903-01	SPRING, TENSION	
405	3-716-935-01	SLIDER, M	
406	3-686-909-01	GEAR, MODE OUTPUT	
407	3-714-035-01	SPRING, TENSION	
408	3-699-650-01	SPRING, TENSION	
409	3-669-480-11	+ PTPWH 2	
410	1-554-942-11	SWITCH, PUSH (RECOG) (S904)	
411	X-3711-992-1	COVER ASSY, C MOTOR	433
412	1-619-921-11	PC BOARD, FP-19 FLEXIBLE	
413	8-835-138-01	MOTOR, DC (DNR-53018) (CONTROL) (M905)	
414	3-315-384-31	WASHER, STOPPER	
415	3-686-579-01	SPRING	
416	*3-686-634-01	ARM, RL	
417	3-686-906-01	SPRING, TENSION	

No.	Part No.	Description	Remark
418	3-686-904-01	SPRING, TENSION	
419	X-3711-993-1	BRAKE ASSY, REM	
420	3-716-933-01	SPACER, REM BRAKE	
421	*3-686-580-01	ARM, SET UP	
422	3-686-996-01	BRAKE (S), HARD	
423	3-686-905-02	SPRING, TENSION	
424	3-686-603-04	SPRING	
425	*3-686-644-01	ARM, BAND	
426	3-686-528-01	SCREW (2X6), +	
427	*3-686-642-01	PLATE, ADJUSTMENT, BAND	
428	*3-686-755-01	DISK, EJECT	
429	*3-686-643-01	ARM, MODE	
430	*X-3686-530-1	ARM (A) ASSY, SELECTION	
431	*3-686-656-01	SLIDER, B RELEASE	
432	A-7090-029-A	M-SW ASSY	413, 434
433	3-716-963-01	SHOE, C MOTOR COVER	
434	*A-7090-029-A	MS-4 BOARD, COMPLETE	

MA-22

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

The components identified by mark **A** or dotted line with mark **A** are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- RESISTORS
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable
- Items marked "•" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- SEMICONDUCTORS
In each case, U: μ , for example:
UA...: μ A..., UPA...: μ PA...,
UPB...: μ PB..., UPC...: μ PC...,
UPD...: μ PD...
- CAPACITORS
MF: μ F, PF: μ F
- COILS
MMH: mH, UH: μ H

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
*A-7061-043-A MA-22 BOARD, COMPLETE (Ref.No.7,000 Series)				C060	1-163-134-00	CERAMIC CHIP 510PF	5% 50V
CAPACITOR				C061	1-163-134-00	CERAMIC CHIP 510PF	5% 50V
C001	1-124-234-00	ELECT 22MF	20% 10V	C101	1-124-234-00	ELECT 22MF	20% 10V
C002	1-124-234-00	ELECT 22MF	20% 10V	C102	1-124-234-00	ELECT 22MF	20% 10V
C003	1-126-094-11	ELECT 4.7MF	20% 16V	C103	1-126-094-11	ELECT 4.7MF	20% 16V
C004	1-124-234-00	ELECT 22MF	20% 10V	C104	1-124-234-00	ELECT 22MF	20% 10V
C005	1-124-234-00	ELECT 22MF	20% 10V	C105	1-124-234-00	ELECT 22MF	20% 10V
C006	1-124-234-00	ELECT 22MF	20% 10V	C106	1-124-234-00	ELECT 22MF	20% 10V
C007	1-124-234-00	ELECT 22MF	20% 10V	C107	1-124-234-00	ELECT 22MF	20% 10V
C008	1-124-234-00	ELECT 22MF	20% 10V	C108	1-124-234-00	ELECT 22MF	20% 10V
C009	1-124-234-00	ELECT 22MF	20% 10V	C109	1-124-234-00	ELECT 22MF	20% 10V
C010	1-124-234-00	ELECT 22MF	20% 10V	C110	1-124-234-00	ELECT 22MF	20% 10V
C011	1-124-234-00	ELECT 22MF	20% 10V	C111	1-124-234-00	ELECT 22MF	20% 10V
C012	1-124-234-00	ELECT 22MF	20% 10V	C112	1-124-234-00	ELECT 22MF	20% 10V
C013	1-126-157-11	ELECT 10MF	20% 6.3V	C113	1-126-157-11	ELECT 10MF	20% 6.3V
C014	1-124-257-00	ELECT 2.2MF	20% 35V	C114	1-124-257-00	ELECT 2.2MF	20% 35V
C015	1-124-234-00	ELECT 22MF	20% 10V	C115	1-124-234-00	ELECT 22MF	20% 10V
C016	1-124-234-00	ELECT 22MF	20% 10V	C116	1-124-234-00	ELECT 22MF	20% 10V
C017	1-124-234-00	ELECT 22MF	20% 10V	C117	1-124-234-00	ELECT 22MF	20% 10V
C018	1-124-234-00	ELECT 22MF	20% 10V	C118	1-124-234-00	ELECT 22MF	20% 10V
C019	1-124-234-00	ELECT 22MF	20% 10V	C119	1-124-234-00	ELECT 22MF	20% 10V
C020	1-124-234-00	ELECT 22MF	20% 10V	C120	1-124-234-00	ELECT 22MF	20% 10V
C021	1-124-234-00	ELECT 22MF	20% 10V	C121	1-124-234-00	ELECT 22MF	20% 10V
C022	1-124-584-00	ELECT 100MF	20% 10V	C122	1-124-584-00	ELECT 100MF	20% 10V
C023	1-130-474-00	MYLAR 0.0018MF	5% 50V	C123	1-130-474-00	MYLAR 0.0018MF	5% 50V
C025	1-124-234-00	ELECT 22MF	20% 10V	C125	1-124-234-00	ELECT 22MF	20% 10V
C027	1-130-474-00	MYLAR 0.0018MF	5% 50V	C127	1-130-474-00	MYLAR 0.0018MF	5% 50V
C028	1-124-234-00	ELECT 22MF	20% 10V	C128	1-124-234-00	ELECT 22MF	20% 10V
C029	1-124-234-00	ELECT 22MF	20% 10V	C129	1-124-234-00	ELECT 22MF	20% 10V
C030	1-124-234-00	ELECT 22MF	20% 10V	C130	1-124-234-00	ELECT 22MF	20% 10V
C031	1-124-234-00	ELECT 22MF	20% 10V	C131	1-124-234-00	ELECT 22MF	20% 10V
C032	1-163-145-00	CERAMIC CHIP 0.0015MF	5% 50V	C132	1-163-145-00	CERAMIC CHIP 0.0015MF	5% 50V
C033	1-124-234-00	ELECT 22MF	20% 10V	C133	1-124-234-00	ELECT 22MF	20% 10V
C034	1-124-234-00	ELECT 22MF	20% 10V	C134	1-124-234-00	ELECT 22MF	20% 10V
C035	1-124-234-00	ELECT 22MF	20% 10V	C135	1-124-234-00	ELECT 22MF	20% 10V
C036	1-130-474-00	MYLAR 0.0018MF	5% 50V	C136	1-124-234-00	ELECT 22MF	20% 10V
C039	1-124-234-00	ELECT 22MF	20% 10V	C139	1-124-234-00	ELECT 22MF	20% 10V
C040	1-124-234-00	ELECT 22MF	20% 10V	C141	1-124-234-00	ELECT 22MF	20% 10V
C041	1-124-234-00	ELECT 22MF	20% 10V	C142	1-124-234-00	ELECT 22MF	20% 10V
C042	1-124-234-00	ELECT 22MF	20% 10V	C143	1-124-234-00	ELECT 22MF	20% 10V
C043	1-124-234-00	ELECT 22MF	20% 10V	C149	1-124-234-00	ELECT 22MF	20% 10V
C049	1-124-234-00	ELECT 22MF	20% 10V	C150	1-163-145-00	CERAMIC CHIP 0.0015MF	5% 50V
C050	1-163-145-00	CERAMIC CHIP 0.0015MF	5% 50V	C151	1-163-145-00	CERAMIC CHIP 0.0015MF	5% 50V
C051	1-163-145-00	CERAMIC CHIP 0.0015MF	5% 50V	C152	1-163-145-00	CERAMIC CHIP 0.0015MF	5% 50V
C052	1-163-145-00	CERAMIC CHIP 0.0015MF	5% 50V	C153	1-163-145-00	CERAMIC CHIP 0.0015MF	5% 50V
C053	1-163-145-00	CERAMIC CHIP 0.0015MF	5% 50V	C154	1-124-234-00	ELECT 22MF	20% 10V
C054	1-124-234-00	ELECT 22MF	20% 10V	C155	1-124-234-00	ELECT 22MF	20% 10V
C055	1-124-234-00	ELECT 22MF	20% 10V	C157	1-124-234-00	ELECT 22MF	20% 10V
C057	1-124-234-00	ELECT 22MF	20% 10V	C158	1-124-234-00	ELECT 22MF	20% 10V
C058	1-124-234-00	ELECT 22MF	20% 10V	C159	1-124-234-00	ELECT 22MF	20% 10V
C059	1-124-234-00	ELECT 22MF	20% 10V	C160	1-163-134-00	CERAMIC CHIP 510PF	5% 50V
				C161	1-163-134-00	CERAMIC CHIP 510PF	5% 50V
				C204	1-163-033-00	CERAMIC CHIP 0.022MF	50V

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
C205	1-163-033-00	CERAMIC CHIP 0.022MF	50V	D203	8-719-100-05	DIODE 1S2837	
C206	1-163-021-00	CERAMIC CHIP 0.01MF	50V	D204	8-719-100-05	DIODE 1S2837	
C208	1-163-021-00	CERAMIC CHIP 0.01MF	50V	D205	8-719-100-03	DIODE 1S2835	
C210	1-124-234-00	ELECT 22MF	20% 10V	D206	8-719-100-05	DIODE 1S2837	
C212	1-124-234-00	ELECT 22MF	20% 10V	D207	8-719-100-05	DIODE 1S2837	
C214	1-124-234-00	ELECT 22MF	20% 10V	D208	8-719-101-23	DIODE 1S5123	
C215	1-163-033-00	CERAMIC CHIP 0.022MF	50V	D209	8-719-101-23	DIODE 1S5123	
C216	1-163-021-00	CERAMIC CHIP 0.01MF	50V	D210	8-719-100-03	DIODE 1S2835	
C218	1-124-584-00	ELECT 100MF	20% 10V	D211	8-719-100-03	DIODE 1S2835	
C219	1-124-234-00	ELECT 22MF	20% 10V	D212	8-719-100-03	DIODE 1S2835	
C220	1-126-157-11	ELECT 10MF	20% 6.3V	D213	8-719-100-05	DIODE 1S2837	
C221	1-124-237-00	ELECT 2.2MF	20% 35V	D214	8-719-100-05	DIODE 1S2837	
C222	1-163-033-00	CERAMIC CHIP 0.022MF	50V	D215	8-719-100-05	DIODE 1S2837	
C223	1-124-234-00	ELECT 22MF	20% 10V	D216	8-719-100-03	DIODE 1S2835	
C224	1-124-234-00	ELECT 22MF	20% 10V	D217	8-719-100-05	DIODE 1S2837	
C225	1-124-584-00	ELECT 100MF	20% 10V	D218	8-719-108-01	DIODE 1S5153	
C226	1-124-584-00	ELECT 100MF	20% 10V	D219	8-719-100-05	DIODE 1S2837	
C228	1-124-234-00	ELECT 22MF	20% 10V	D220	8-719-108-01	DIODE 1S5153	
C229	1-124-234-00	ELECT 22MF	20% 10V	D221	8-719-101-23	DIODE 1S5123	
C230	1-124-234-00	ELECT 22MF	20% 10V	D222	8-719-100-05	DIODE 1S2837	
C231	1-124-234-00	ELECT 22MF	20% 10V	D223	8-719-100-03	DIODE 1S2835	
C233	1-124-234-00	ELECT 22MF	20% 10V	D224	8-719-100-05	DIODE 1S2837	
C234	1-126-094-11	ELECT 4.7MF	20% 16V	D225	8-719-100-03	DIODE 1S2835	
C235	1-124-257-00	ELECT 2.2MF	20% 35V	D226	8-719-100-03	DIODE 1S2835	
C236	1-124-234-00	ELECT 22MF	20% 10V	D227	8-719-100-03	DIODE 1S2835	
C237	1-163-134-00	CERAMIC CHIP 510PF	5% 50V	D228	8-719-100-03	DIODE 1S2835	
C238	1-163-134-00	CERAMIC CHIP 510PF	5% 50V	D229	8-719-100-03	DIODE 1S2835	
C239	1-124-234-00	ELECT 22MF	20% 10V	D230	8-719-100-03	DIODE 1S2835	
C240	1-163-134-00	CERAMIC CHIP 510PF	5% 50V	D231	8-719-100-03	DIODE 1S2835	
C241	1-163-134-00	CERAMIC CHIP 510PF	5% 50V	D232	8-719-100-03	DIODE 1S2835	
C277	1-124-234-00	ELECT 22MF	20% 10V	D233	8-719-100-03	DIODE 1S2835	
CONNECTOR				D234	8-719-100-03	DIODE 1S2835	
CNO01	1-506-469-11	PIN, CONNECTOR 4P		D235	8-719-100-03	DIODE 1S2835	
CNO02	1-506-473-11	PIN, CONNECTOR 8P		D237	8-719-100-03	DIODE 1S2835	
CNO03	1-506-470-11	PIN, CONNECTOR 5P		D238	8-719-100-03	DIODE 1S2835	
CNO04	1-506-470-11	PIN, CONNECTOR 5P		D239	8-719-100-03	DIODE 1S2835	
CNO05	1-506-485-11	PIN, CONNECTOR 6P		D240	8-719-100-03	DIODE 1S2835	
CNO06	*1-564-005-41	PIN, CONNECTOR 6P		D241	8-719-100-03	DIODE 1S2835	
CNO09	*1-564-014-41	PIN, CONNECTOR 4P		D242	8-719-101-23	DIODE 1S5123	
CNO10	1-506-484-11	PIN, CONNECTOR 5P		D243	8-719-105-54	DIODE RO3, 6M-82	
CNO11	1-506-485-11	PIN, CONNECTOR 6P		D244	8-719-108-01	DIODE 1S5153	
CNO12	1-506-485-11	PIN, CONNECTOR 6P		IC			
CNO13	1-506-470-11	PIN, CONNECTOR 5P		IC001	8-759-603-27	IC M5201FP	
CNO14	*1-564-003-21	PIN, CONNECTOR 4P		IC002	8-759-701-97	IC NJM4562M	
CNO15	1-506-485-11	PIN, CONNECTOR 6P		IC003	8-759-603-27	IC M5201FP	
CNO16	1-506-485-11	PIN, CONNECTOR 6P		IC004	8-759-700-43	IC NJM4558M	
DIODE				IC005	8-759-700-43	IC NJM4558M	
D001	8-719-101-23	DIODE 1S5123		IC007	8-759-700-43	IC NJM4558M	
D101	8-719-101-23	DIODE 1S5123		IC008	8-759-603-27	IC M5201FP	
D201	8-719-100-03	DIODE 1S2835		IC101	8-759-603-27	IC M5201FP	
D202	8-719-100-05	DIODE 1S2837		IC102	8-759-701-97	IC NJM4562M	
				IC103	8-759-603-27	IC M5201FP	

When indicating parts by reference number, please include the board name.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
IC104	8-759-700-43	IC NJM4558M		Q210	8-729-901-01	TRANSISTOR DTC144EX	
IC105	8-759-700-43	IC NJM4558M		Q211	8-729-901-06	TRANSISTOR DTA144EX	
IC107	8-759-700-43	IC NJM4558M		Q212	8-729-901-06	TRANSISTOR DTA144EX	
IC108	8-759-603-27	IC M5201FP		Q213	8-729-901-06	TRANSISTOR DTA144EX	
IC201	8-759-200-81	IC TC4053BF		Q214	8-729-901-01	TRANSISTOR DTC144EX	
IC202	8-759-201-00	IC TC4052BF		Q215	8-729-901-01	TRANSISTOR DTC144EX	
IC204	8-759-200-81	IC TC4053BF		Q216	8-729-901-01	TRANSISTOR DTC144EX	
IC205	8-759-700-43	IC NJM4558M		Q217	8-729-901-06	TRANSISTOR DTA144EX	
IC206	8-759-200-81	IC TC4053BF		Q218	8-729-901-01	TRANSISTOR DTC144EX	
IC207	8-759-603-27	IC M5201FP		Q219	8-729-901-01	TRANSISTOR DTC144EX	
IC208	8-759-700-43	IC NJM4558M		Q220	8-729-901-01	TRANSISTOR DTC144EX	
IC209	8-759-603-27	IC M5201FP		Q221	8-729-901-06	TRANSISTOR DTA144EX	
TRANSISTOR				Q222	8-729-901-06	TRANSISTOR DTA144EX	
Q001	8-729-100-66	TRANSISTOR 2SC1623		Q223	8-729-901-06	TRANSISTOR DTA144EX	
Q002	8-729-202-38	TRANSISTOR 2SC3326N		Q224	8-729-901-06	TRANSISTOR DTA144EX	
Q003	8-729-202-38	TRANSISTOR 2SC3326N		Q225	8-729-901-01	TRANSISTOR DTC144EX	
Q004	8-729-202-38	TRANSISTOR 2SC3326N		Q226	8-729-901-01	TRANSISTOR DTC144EX	
Q005	8-729-202-38	TRANSISTOR 2SC3326N		Q228	8-729-901-01	TRANSISTOR DTC144EX	
Q006	8-729-202-38	TRANSISTOR 2SC3326N		Q229	8-729-901-06	TRANSISTOR DTA144EX	
Q007	8-729-202-38	TRANSISTOR 2SC3326N		Q230	8-729-901-06	TRANSISTOR DTA144EX	
Q008	8-729-202-38	TRANSISTOR 2SC3326N		Q231	8-729-901-06	TRANSISTOR DTA144EX	
Q009	8-729-202-38	TRANSISTOR 2SC3326N		Q232	8-729-901-06	TRANSISTOR DTA144EX	
Q010	8-729-202-38	TRANSISTOR 2SC3326N		Q233	8-729-901-01	TRANSISTOR DTC144EX	
Q011	8-729-202-38	TRANSISTOR 2SC3326N		Q234	8-729-202-38	TRANSISTOR 2SC3326N	
Q012	8-729-202-38	TRANSISTOR 2SC3326N		Q235	8-729-100-66	TRANSISTOR 2SC1623	
Q013	8-729-202-38	TRANSISTOR 2SC3326N		Q236	8-729-901-01	TRANSISTOR DTC144EX	
Q016	8-729-202-38	TRANSISTOR 2SC3326N		Q238	8-729-901-06	TRANSISTOR DTA144EX	
Q018	8-729-202-38	TRANSISTOR 2SC3326N		Q239	8-729-100-76	TRANSISTOR 2SA812	
Q021	8-729-202-38	TRANSISTOR 2SC3326N		Q240	8-729-901-01	TRANSISTOR DTC144EX	
Q101	8-729-100-66	TRANSISTOR 2SC1623		Q243	8-729-901-01	TRANSISTOR DTC144EX	
Q102	8-729-202-38	TRANSISTOR 2SC3326N		Q244	8-729-901-06	TRANSISTOR DTA144EX	
Q103	8-729-202-38	TRANSISTOR 2SC3326N		Q245	8-729-901-06	TRANSISTOR DTA144EX	
Q104	8-729-202-38	TRANSISTOR 2SC3326N		Q246	8-729-901-06	TRANSISTOR DTA144EX	
Q105	8-729-202-38	TRANSISTOR 2SC3326N		Q247	8-729-901-06	TRANSISTOR DTA144EX	
Q106	8-729-202-38	TRANSISTOR 2SC3326N		Q248	8-729-901-06	TRANSISTOR DTA144EX	
Q107	8-729-202-38	TRANSISTOR 2SC3326N		Q249	8-729-901-01	TRANSISTOR DTC144EX	
Q109	8-729-202-38	TRANSISTOR 2SC3326N		Q252	8-729-901-06	TRANSISTOR DTA144EX	
Q110	8-729-202-38	TRANSISTOR 2SC3326N		Q253	8-729-202-38	TRANSISTOR 2SC3326N	
Q111	8-729-202-38	TRANSISTOR 2SC3326N		Q254	8-729-901-06	TRANSISTOR DTA144EX	
Q112	8-729-202-38	TRANSISTOR 2SC3326N		Q255	8-729-901-06	TRANSISTOR DTA144EX	
Q113	8-729-202-38	TRANSISTOR 2SC3326N		Q262	8-729-901-01	TRANSISTOR DTC144EX	
Q116	8-729-202-38	TRANSISTOR 2SC3326N		Q263	8-729-901-01	TRANSISTOR DTC144EX	
Q118	8-729-202-38	TRANSISTOR 2SC3326N		Q264	8-729-100-66	TRANSISTOR 2SC1623	
Q121	8-729-202-38	TRANSISTOR 2SC3326N		Q265	8-729-202-38	TRANSISTOR 2SC3326N	
Q201	8-729-901-06	TRANSISTOR DTA144EX		RESISTOR			
Q202	8-729-901-01	TRANSISTOR DTC144EX		R001	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
Q204	8-729-901-01	TRANSISTOR DTC144EX		R002	1-216-084-00	METAL GLAZE 30K 5% 1/10W	
Q205	8-729-901-06	TRANSISTOR DTA144EX		R003	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
Q206	8-729-901-06	TRANSISTOR DTA144EX		R005	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
Q207	8-729-901-06	TRANSISTOR DTA144EX		R006	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
Q208	8-729-901-01	TRANSISTOR DTC144EX		R007	1-216-091-00	METAL GLAZE 56K 5% 1/10W	
Q209	8-729-901-06	TRANSISTOR DTA144EX		R008	1-216-089-00	METAL GLAZE 47K 5% 1/10W	

When indicating parts by reference number, please include the board name.

Ref. No	Part No.	Description	Remark	Ref. No	Part No.	Description	Remark
R009	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R064	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R010	1-216-045-00	METAL GLAZE	680 5% 1/10W	R065	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R011	1-216-091-00	METAL GLAZE	5.6K 5% 1/10W	R066	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R012	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R067	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R013	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R068	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R014	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R069	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R015	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R070	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R016	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R071	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R017	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W	R072	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R018	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R073	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R019	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W	R074	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R021	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R075	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R022	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R076	1-216-079-00	METAL GLAZE	18K 5% 1/10W
R023	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R077	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R024	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R078	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R025	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R079	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R026	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R080	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R027	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W	R081	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R028	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W	R082	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R029	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R083	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R031	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R084	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R032	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R085	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R033	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W	R086	1-216-295-00	METAL GLAZE	0 5% 1/10W
R034	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	R090	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R035	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R091	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R036	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R094	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R037	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R095	1-216-295-00	METAL GLAZE	0 5% 1/10W
R038	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W	R097	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R039	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R098	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R040	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R099	1-216-295-00	METAL GLAZE	0 5% 1/10W
R041	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R101	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R042	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W	R102	1-216-084-00	METAL GLAZE	30K 5% 1/10W
R043	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R103	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R044	1-216-295-00	METAL GLAZE	0 5% 1/10W	R105	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R045	1-216-082-00	METAL GLAZE	24K 5% 1/10W	R106	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R046	1-216-078-00	METAL GLAZE	16K 5% 1/10W	R107	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R047	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R108	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W
R048	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W	R109	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R049	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R110	1-216-045-00	METAL GLAZE	680 5% 1/10W
R050	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R111	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R051	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W	R112	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R052	1-216-295-00	METAL GLAZE	0 5% 1/10W	R114	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R053	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R115	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R054	1-216-078-00	METAL GLAZE	16K 5% 1/10W	R116	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R055	1-216-082-00	METAL GLAZE	24K 5% 1/10W	R117	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R056	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W	R118	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R057	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W	R119	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W
R058	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R121	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R059	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R122	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R060	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R123	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R061	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R124	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R062	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W	R125	1-216-121-00	METAL GLAZE	1M 5% 1/10W
R063	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R126	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W

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Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R127	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R183	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R128	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R184	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R129	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R185	1-216-083-00	METAL GLAZE 27K 5%	1/10W
R131	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R186	1-216-295-00	METAL GLAZE 0 5%	1/10W
R132	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R190	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R133	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R191	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R134	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W	R194	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R135	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R196	1-216-295-00	METAL GLAZE 0 5%	1/10W
R136	1-216-065-00	METAL GLAZE 6.8K 5%	1/10W	R197	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R137	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R198	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
R138	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R199	1-216-295-00	METAL GLAZE 0 5%	1/10W
R139	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R202	1-216-041-00	METAL GLAZE 470 5%	1/10W
R140	1-216-113-00	METAL GLAZE 470K 5%	1/10W	R204	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R141	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R205	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R142	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R206	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R143	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W	R210	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R144	1-216-295-00	METAL GLAZE 0 5%	1/10W	R211	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R145	1-216-082-00	METAL GLAZE 24K 5%	1/10W	R212	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R146	1-216-078-00	METAL GLAZE 16K 5%	1/10W	R213	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R147	1-216-083-00	METAL GLAZE 27K 5%	1/10W	R214	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R148	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R215	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R149	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R216	1-216-295-00	METAL GLAZE 0 5%	1/10W
R150	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W	R217	1-216-091-00	METAL GLAZE 59K 5%	1/10W
R151	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R218	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R152	1-216-295-00	METAL GLAZE 0 5%	1/10W	R219	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R153	1-216-083-00	METAL GLAZE 27K 5%	1/10W	R220	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R154	1-216-078-00	METAL GLAZE 16K 5%	1/10W	R221	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R155	1-216-082-00	METAL GLAZE 24K 5%	1/10W	R222	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R157	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R223	1-216-085-00	METAL GLAZE 33K 5%	1/10W
R158	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W	R224	1-216-295-00	METAL GLAZE 0 5%	1/10W
R159	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R225	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R160	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R226	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R161	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R227	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R162	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R228	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R164	1-216-085-00	METAL GLAZE 33K 5%	1/10W	R229	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R165	1-216-083-00	METAL GLAZE 27K 5%	1/10W	R230	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R166	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	R231	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R167	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R232	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R168	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R233	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W
R169	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W	R234	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W
R170	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R237	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W
R171	1-216-093-00	METAL GLAZE 68K 5%	1/10W	R238	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R172	1-216-059-00	METAL GLAZE 2.4K 5%	1/10W	R239	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W
R173	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R241	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R174	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W	R242	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R175	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	R243	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R176	1-216-079-00	METAL GLAZE 18K 5%	1/10W	R244	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R177	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R245	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R178	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W	R246	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R179	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R247	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R180	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R249	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W
R181	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R250	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W
R182	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R251	1-216-089-00	METAL GLAZE 47K 5%	1/10W

When indicating parts by reference number, please include the board name.

Ref. No	Part No.	Description	Remark	Ref. No	Part No.	Description	Remark
R252	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R312	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R253	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R313	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R254	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R314	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R255	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R315	1-216-295-00	METAL GLAZE	0 5% 1/10W
R256	1-216-091-00	METAL GLAZE	56K 5% 1/10W	R316	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R257	1-216-295-00	METAL GLAZE	0 5% 1/10W	R317	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R260	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R318	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R261	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R319	1-216-295-00	METAL GLAZE	0 5% 1/10W
R262	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R320	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R263	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R323	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R264	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R324	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R265	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R325	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R266	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R326	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R267	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R327	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R268	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R328	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R270	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R329	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R271	1-216-079-00	METAL GLAZE	18K 5% 1/10W	R330	1-216-095-00	METAL GLAZE	82K 5% 1/10W
R272	1-216-295-00	METAL GLAZE	0 5% 1/10W	R331	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R273	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R332	1-216-054-00	METAL GLAZE	1.6K 5% 1/10W
R274	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R333	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R276	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R334	1-216-095-00	METAL GLAZE	82K 5% 1/10W
R277	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R335	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R278	1-216-069-00	METAL GLAZE	5.6K 5% 1/10W	R336	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R279	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R337	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R280	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R338	1-216-079-00	METAL GLAZE	18K 5% 1/10W
R281	1-216-069-00	METAL GLAZE	5.6K 5% 1/10W	R339	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R282	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R340	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R284	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R341	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R285	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R342	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R287	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R343	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R288	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R344	1-216-111-00	METAL GLAZE	390K 5% 1/10W
R288	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R345	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R289	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R346	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R290	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R347	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R291	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R348	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R293	1-216-295-00	METAL GLAZE	0 5% 1/10W	R349	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R294	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R350	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R295	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R351	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R296	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R352	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R297	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R353	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R298	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R401	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R299	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R402	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R300	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R403	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R301	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R404	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R302	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R405	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R303	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R501	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R304	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R502	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R305	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R503	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R306	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R504	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R307	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R505	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R309	1-216-295-00	METAL GLAZE	0 5% 1/10W	R601	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R310	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	R602	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R311	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R603	1-216-073-00	METAL GLAZE	10K 5% 1/10W

When indicating parts by reference number, please include the board name.

MA-22

RS-28

MD-18P



Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R604	1-216-089-00	METAL GLAZE 47K 5% 1/10W		*A-7061-500-A	MD-18 (P) BOARD, COMPLETE (Ref. No. 4,000 Series)		
R605	1-216-089-00	METAL GLAZE 47K 5% 1/10W					

*A-7061-044-A	RS-28	BOARD, COMPLETE (Ref. No. 4,000 Series)		1-625-649-11	FP-84 FLEXIBLE BOARD		
*1-559-762-11	WIRE, FLAT TYPE 22P			1-625-650-11	FP-122 FLEXIBLE BOARD		
3-712-410-01	HOLDER, RS						
<u>CONNECTOR</u>				<u>CAPACITOR</u>			
CN801	*1-564-012-11	PIN, CONNECTOR 2P		C801	1-124-465-00	ELECT 0.47MF	20% 50V
CN302	*1-564-012-31	PIN, CONNECTOR 2P		C802	1-124-464-11	ELECT 0.22MF	20% 50V
CN804	*1-563-494-11	CONNECTOR, F.P.C 5P		C803	1-163-038-00	CERAMIC CHIP 0.1MF	20% 25V
CN305	*1-565-211-11	CONNECTOR, FPC (ZIF) 22P		C804	1-126-160-11	ELECT 1MF	20% 50V
<u>DIODE</u>				C805	1-163-038-00	CERAMIC CHIP 0.1MF	20% 25V
D320	9-719-101-23	DIODE 1SS123		C806	1-124-769-11	ELECT 4.7MF	20% 50V
D321	8-719-101-23	DIODE 1SS123		C807	1-163-038-00	CERAMIC CHIP 0.1MF	20% 25V
<u>IC</u>				C808	1-126-162-11	ELECT 3.3MF	20% 50V
IC301	8-759-908-81	IC MB3763PF		C809	1-126-096-11	ELECT 10MF	20% 25V
IC302	8-759-908-81	IC MB3763PF		C810	1-126-096-11	ELECT 10MF	20% 25V
<u>TRANSISTOR</u>				C811	1-126-096-11	ELECT 10MF	20% 25V
PH301	8-719-939-11	GP2S09-B		C812	1-126-096-11	ELECT 10MF	20% 25V
PH302	8-719-939-11	GP2S09-B		C813	1-126-160-11	ELECT 1MF	20% 50V
PH303	8-719-939-11	GP2S09-B		C814	1-126-160-11	ELECT 1MF	20% 50V
<u>TRANSISTOR</u>				C815	1-126-160-11	ELECT 1MF	20% 50V
Q301	8-729-199-92	TRANSISTOR 2SD999		C816	1-124-229-00	ELECT 33MF	20% 10V
Q302	8-729-901-05	TRANSISTOR DTA124EX		C817	1-124-229-00	ELECT 33MF	20% 10V
Q303	8-729-900-53	TRANSISTOR DTC114EX		C818	1-124-229-00	ELECT 33MF	20% 10V
Q304	8-729-901-05	TRANSISTOR DTA124EX		C819	1-164-161-11	CERAMIC CHIP 0.0022MF	50V 25V
Q305	8-729-901-01	TRANSISTOR DTC114EX		C820	1-163-038-00	CERAMIC CHIP 0.1MF	20% 25V
Q306	8-729-901-01	TRANSISTOR DTC114EX		C821	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
Q307	8-729-901-01	TRANSISTOR DTC114EX		C822	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
<u>RESISTOR</u>				C901	1-124-234-00	ELECT 22MF	20% 16V
R302	1-216-174-00	METAL GLAZE 100 5% 1/8W		C902	1-124-234-00	ELECT 22MF	20% 16V
R303	1-216-180-00	METAL GLAZE 180 5% 1/8W		C903	1-124-234-00	ELECT 22MF	20% 16V
R304	1-216-089-00	METAL GLAZE 47K 5% 1/10W		C904	1-124-234-00	ELECT 22MF	20% 16V
R305	1-216-089-00	METAL GLAZE 47K 5% 1/10W		C905	1-124-257-00	ELECT 2.2MF	20% 50V
R306	1-216-089-00	METAL GLAZE 47K 5% 1/10W		C906	1-163-021-00	CERAMIC CHIP 0.01MF	50V 25V
R307	1-216-073-00	METAL GLAZE 10K 5% 1/10W		C907	1-163-038-00	CERAMIC CHIP 0.1MF	20% 25V
R308	1-216-073-00	METAL GLAZE 10K 5% 1/10W		C908	1-126-096-11	ELECT 10MF	20% 25V
R309	1-216-073-00	METAL GLAZE 10K 5% 1/10W		C909	1-163-077-00	CERAMIC CHIP 0.1MF	10% 25V
R320	1-216-041-00	METAL GLAZE 470 5% 1/10W		C910	1-130-491-00	MYLAR 0.047MF	5% 50V
R321	1-216-073-00	METAL GLAZE 10K 5% 1/10W		C911	1-130-491-00	MYLAR 0.047MF	5% 50V

<u>CONNECTOR</u>				C912	1-130-483-00	MYLAR 0.01MF	5% 50V
CN801	1-506-483-21	PIN, CONNECTOR 4P		C913	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
CN803	*1-564-012-11	PIN, CONNECTOR 2P		C914	1-124-589-11	ELECT 47MF	20% 16V
CN804	1-506-484-11	PIN, CONNECTOR 5P		C915	1-163-021-00	CERAMIC CHIP 0.01MF	50V 25V
				C916	1-124-288-00	ELECT 22MF	20% 10V
				C917	1-124-288-00	ELECT 22MF	20% 10V
				C918	1-163-021-00	CERAMIC CHIP 0.01MF	50V 25V
				C919	1-163-021-00	CERAMIC CHIP 0.01MF	50V 25V

When indicating parts by reference number, please include the board name.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
CN805	*1-564-003-21	PIN, CONNECTOR 4P		Q821	8-729-100-67	TRANSISTOR 2SC1623-L7	
CN806	*1-564-003-21	PIN, CONNECTOR 4P		Q880	8-729-100-67	TRANSISTOR 2SC1623-L7	
CN807	1-566-527-11	CONNECTOR, FPC (ZIF) 11P		Q901	8-729-903-88	TRANSISTOR 2SB1188-R	
CN808	1-566-531-11	CONNECTOR, FPC (ZIF) 15P		Q902	8-729-903-88	TRANSISTOR 2SB1188-R	
CN809	1-566-945-11	CONNECTOR, BOARD TO BOARD 18P		Q903	8-729-903-88	TRANSISTOR 2SB1188-R	
CN810	1-566-946-11	CONNECTOR, BOARD TO BOARD 22P		Q904	8-729-901-06	TRANSISTOR DTA144EX	
CN811	*1-566-367-11	CONNECTOR, HINGE (RECEPTACLE)		Q905	8-729-901-06	TRANSISTOR DTA144EX	
CN812	1-566-942-11	CONNECTOR, HINGE (RECEPTACLE) 30P		Q906	8-729-901-01	TRANSISTOR DTC144EX	
CN814	*1-566-367-11	CONNECTOR, HINGE (RECEPTACLE)		Q907	8-729-901-01	TRANSISTOR DTC144EX	
<u>DIODE</u>				<u>RESISTOR</u>			
D803	8-719-200-27	DIODE E100S2		R806	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
D810	8-719-100-05	DIODE 1S2B37		R807	1-216-049-00	METAL GLAZE 1K 5%	1/10W
D811	8-719-200-27	DIODE E100S2		R810	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W
D901	8-719-100-05	DIODE 1S2B37		R811	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W
D902	8-719-100-05	DIODE 1S2B37		R818	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W
D903	8-719-100-05	DIODE 1S2B37		R819	1-216-113-00	METAL GLAZE 470K 5%	1/10W
D904	8-719-101-23	DIODE 1S5123		R820	1-216-025-00	METAL GLAZE 100 5%	1/10W
D905	8-719-801-48	DIODE 1S5193		R821	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
<u>IC</u>				R822	1-216-295-00	METAL GLAZE 0 5%	1/10W
IC801	8-759-202-45	IC CX20114		R823	1-216-025-00	METAL GLAZE 100 5%	1/10W
IC802	8-759-802-79	IC LA1616M		R824	1-216-081-00	METAL GLAZE 22K 5%	1/10W
IC804	8-759-701-24	IC NJM3414M		R825	1-216-085-00	METAL GLAZE 33K 5%	1/10W
IC805	8-759-100-93	IC UPC39302		R826	1-216-073-00	METAL GLAZE 10K 5%	1/10W
IC806	8-759-207-00	IC TA7733F		R827	1-216-081-00	METAL GLAZE 22K 5%	1/10W
IC807	8-759-107-68	IC CX20115A		R828	1-216-033-00	METAL GLAZE 220 5%	1/10W
IC901	8-759-207-50	IC TA7745F		R829	1-216-081-00	METAL GLAZE 22K 5%	1/10W
IC902	8-759-100-95	IC UP32402		R830	1-216-101-00	METAL GLAZE 150K 5%	1/10W
IC903	8-759-925-66	IC BA6303F		R831	1-216-049-00	METAL GLAZE 1K 5%	1/10W
IC904	8-759-201-01	IC TC4066BF		R832	1-216-304-11	METAL GLAZE 3.3 5%	1/10W
<u>IC LINK</u>				R833	1-216-304-11	METAL GLAZE 3.3 5%	1/10W
PS801A	1-532-685-00	LINK, IC 0-8A		R834	1-216-304-11	METAL GLAZE 3.3 5%	1/10W
<u>TRANSISTOR</u>				R840	1-216-107-00	METAL GLAZE 270K 5%	1/10W
Q801	8-729-903-97	TRANSISTOR FMS1FE		R841	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q802	8-729-903-82	TRANSISTOR FM2		R842	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q806	8-729-111-14	TRANSISTOR 2SA1385-Z-L		R843	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q807	8-729-901-06	TRANSISTOR DTA144EX		R844	1-216-107-00	METAL GLAZE 270K 5%	1/10W
Q808	8-729-100-76	TRANSISTOR 2SA812		R845	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q809	8-729-105-19	TRANSISTOR 2SC3518		R846	1-216-107-00	METAL GLAZE 270K 5%	1/10W
Q810	8-729-105-40	TRANSISTOR 2SB1114-ZK		R847	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q811	8-729-106-40	TRANSISTOR 2SB1114-ZK		R848	1-216-107-00	METAL GLAZE 270K 5%	1/10W
Q812	8-729-111-14	TRANSISTOR 2SA1385-Z-L		R849	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q813	8-729-100-67	TRANSISTOR 2SC1623-L7		R851	1-216-055-00	METAL GLAZE 1.8K 5%	1/10W
Q820	8-729-105-19	TRANSISTOR 2SC3518		R852	1-216-081-00	METAL GLAZE 22K 5%	1/10W
				R859	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
				R861	1-216-055-00	METAL GLAZE 1.8K 5%	1/10W
				R864	1-216-033-00	METAL GLAZE 220 5%	1/10W
				R870	1-216-113-00	METAL GLAZE 470K 5%	1/10W
				R887	1-216-049-00	METAL GLAZE 1K 5%	1/10W
				R888	1-216-049-00	METAL GLAZE 1K 5%	1/10W
				R889	1-216-049-00	METAL GLAZE 1K 5%	1/10W
				R896	1-216-073-00	METAL GLAZE 10K 5%	1/10W
				R897	1-216-039-00	METAL GLAZE 390 5%	1/10W

Note: The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

MD-18P

HK-3

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R901	1-216-035-00	METAL GLAZE 270 5%	1/10W	C106	1-126-205-11	ELECT 47MF	20% 6.3V
R902	1-216-035-00	METAL GLAZE 270 5%	1/10W	C107	1-135-091-00	TANTAL. CHIP 1MF	20% 16V
R903	1-216-035-00	METAL GLAZE 270 5%	1/10W	C108	1-163-275-91	CERAMIC CHIP 0.001MF	5% 50V
R904	1-216-049-00	METAL GLAZE 1K 5%	1/10W	C109	1-163-035-00	CERAMIC CHIP 0.047MF	5% 50V
R905	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	C110	1-163-120-00	CERAMIC CHIP 130PF	5% 50V
R906	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	C111	1-163-035-00	CERAMIC CHIP 0.047MF	50V
R907	1-216-059-00	METAL GLAZE 6.8K 5%	1/10W	C112	1-163-035-00	CERAMIC CHIP 0.047MF	50V
R908	1-216-027-00	METAL GLAZE 120 5%	1/10W	C113	1-163-035-00	CERAMIC CHIP 0.047MF	50V
R909	1-216-027-00	METAL GLAZE 120 5%	1/10W	C114	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R910	1-216-073-00	METAL GLAZE 10K 5%	1/10W	C115	1-163-115-00	CERAMIC CHIP 82PF	5% 50V
R911	1-216-113-00	METAL GLAZE 470K 5%	1/10W	C116	1-126-209-11	ELECT 100MF	20% 4V
R912	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W	C117	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R913	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W	C118	1-135-150-21	TANTAL. CHIP 3.3MF	10% 6.3V
R916	1-216-073-00	METAL GLAZE 10K 5%	1/10W	C119	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R917	1-216-073-00	METAL GLAZE 10K 5%	1/10W	C120	1-163-094-00	CERAMIC CHIP 11PF	5% 50V
R918	1-216-073-00	METAL GLAZE 10K 5%	1/10W	C121	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R919	1-216-073-00	METAL GLAZE 10K 5%	1/10W	C122	1-163-129-00	CERAMIC CHIP 330PF	5% 50V
R920	1-216-077-00	METAL GLAZE 15K 5%	1/10W	C123	1-135-157-21	TANTAL. CHIP 10MF	20% 6.3V
R921	1-216-083-00	METAL GLAZE 27K 5%	1/10W	C124	1-135-072-21	TANTAL. CHIP 0.22MF	10% 35V
R922	1-216-085-00	METAL GLAZE 33K 5%	1/10W	C125	1-163-122-00	CERAMIC CHIP 160PF	5% 50V
R923	1-216-748-11	METAL GLAZE 39K 5%	1/10W	C126	1-163-122-00	CERAMIC CHIP 160PF	5% 50V
R924	1-216-089-00	METAL GLAZE 47K 5%	1/10W	C127	1-163-102-00	CERAMIC CHIP 28PF	5% 50V
R925	1-216-089-00	METAL GLAZE 47K 5%	1/10W	C128	1-163-035-00	CERAMIC CHIP 0.047MF	50V
R926	1-216-111-00	METAL GLAZE 390K 5%	1/10W	C129	1-163-035-00	CERAMIC CHIP 0.047MF	50V
R927	1-216-110-00	METAL GLAZE 360K 5%	1/10W	C130	1-135-157-21	TANTAL. CHIP 10MF	20% 6.3V
R928	1-216-073-00	METAL GLAZE 10K 5%	1/10W	C131	1-163-035-00	CERAMIC CHIP 0.047MF	50V
R929	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W	C132	1-163-085-00	CERAMIC CHIP 2PF	0.25PF 50V
R950	1-216-295-00	METAL GLAZE 0 5%	1/10W	C133	1-163-092-00	CERAMIC CHIP 9PF	0.25PF 50V
VARIABLE RESISTOR				C134	1-163-038-00	CERAMIC CHIP 0.1MF	25V
RV901	1-230-529-11	RES, ADJ, METAL GLAZE 470K		C135	1-163-113-00	CERAMIC CHIP 68PF	5% 50V
THERMISTOR				C136	1-163-113-00	CERAMIC CHIP 68PF	5% 50V
THP801	1-806-886-11	THERMISTOR (POSITIVE)		C137	1-163-035-00	CERAMIC CHIP 0.047MF	50V
CONNECTOR				C138	1-135-155-21	TANTAL. CHIP 4.7MF	20% 10V
WB01	1-562-880-11	CONNECTOR, CARD EDGE 15P		C139	1-135-155-21	TANTAL. CHIP 4.7MF	20% 10V
W901	1-562-880-11	CONNECTOR, CARD EDGE 15P		C140	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
*****				C141	1-163-119-00	CERAMIC CHIP 120PF	5% 50V
*A-7061-501-A	HK-3 BOARD, COMPLETE (Ref.No.2,000 ***** Series)			C142	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
3-531-576-01	RIVET			C143	1-163-021-00	CERAMIC CHIP 0.01MF	50V
*3-724-107-01	RETAINER, PC BOARD			C144	1-126-205-11	ELECT 47MF	20% 6.3V
CAPACITOR				C145	1-135-091-00	TANTAL. CHIP 1MF	20% 16V
C101	1-163-120-00	CERAMIC CHIP 130PF	5%	C146	1-135-157-21	TANTAL. CHIP 10MF	20% 6.3V
C102	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C147	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C103	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C148	1-135-157-21	TANTAL. CHIP 10MF	20% 6.3V
C104	1-163-038-00	CERAMIC CHIP 0.047MF	50V	C149	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C105	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C150	1-135-157-21	TANTAL. CHIP 10MF	20% 6.3V
*****				C151	1-163-038-00	CERAMIC CHIP 0.1MF	25V
				C152	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
				C154	1-163-038-00	CERAMIC CHIP 0.1MF	25V
				C155	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
				C156	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
				C157	1-163-038-00	CERAMIC CHIP 0.1MF	25V
				C158	1-135-157-21	TANTAL. CHIP 10MF	20% 6.3V
				C159	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V

When indicating parts by reference number, please include the board name.

Sr.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark	
C200	1-126-206-11	ELECT 100MF	20%	6.3V	C311	1-163-129-00	CERAMIC CHIP 330PF 5% 50V	
C201	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C312	1-163-021-00	CERAMIC CHIP 0.01MF 5% 50V		
C202	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C313	1-163-091-00	CERAMIC CHIP 8PF 0.25PF 50V		
C203	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C314	1-163-097-00	CERAMIC CHIP 15PF 5% 50V		
C204	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	C315	1-163-123-00	CERAMIC CHIP 180PF 5% 50V	
C205	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	C316	1-163-129-00	CERAMIC CHIP 330PF 5% 50V	
C206	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	C317	1-163-021-00	CERAMIC CHIP 0.01MF 5% 50V	
C207	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	C318	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C208	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V	C319	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C209	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C320	1-135-157-21	TANTAL. CHIP 10MF 20%	6.3V	
C210	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	C321	1-163-098-00	CERAMIC CHIP 5PF 0.25PF 50V	
C211	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V	C322	1-163-129-00	CERAMIC CHIP 330PF 5% 50V	
C212	1-163-021-00	CERAMIC CHIP 0.01MF	50V	C323	1-135-070-00	TANTAL. CHIP 0.1MF 10%	35V	
C213	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	C324	1-135-073-00	TANTAL. CHIP 0.33MF 10%	35V
C214	1-163-111-00	CERAMIC CHIP 56PF	5%	50V	C325	1-163-093-00	CERAMIC CHIP 10PF 5% 50V	
C215	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	C326	1-163-275-91	CERAMIC CHIP 0.001MF 5% 50V	
C216	1-163-115-00	CERAMIC CHIP 82PF	5%	50V	C327	1-163-108-00	CERAMIC CHIP 43PF 5% 50V	
C217	1-163-115-00	CERAMIC CHIP 82PF	5%	50V	C328	1-163-037-11	CERAMIC CHIP 0.022MF 10%	25V
C218	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	C329	1-163-037-11	CERAMIC CHIP 0.022MF 10%	25V
C219	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	C330	1-135-100-21	TANTAL. CHIP 6.8MF 10%	6.3V
C220	1-126-208-11	ELECT 47MF	20%	4V	C331	1-135-155-21	TANTAL. CHIP 4.7MF 20%	10V
C221	1-163-121-00	CERAMIC CHIP 150PF	5%	50V	C332	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C222	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	C333	1-135-157-21	TANTAL. CHIP 10MF 20%	6.3V
C223	1-163-113-00	CERAMIC CHIP 68PF	5%	50V	C334	1-163-121-00	CERAMIC CHIP 150PF 5%	50V
C224	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	C335	1-163-021-00	CERAMIC CHIP 0.01MF 50V	
C225	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V	C336	1-163-035-00	CERAMIC CHIP 0.047MF 50V	
C226	1-135-099-85	TANTAL. CHIP 2.2MF	10%	6.3V	C337	1-163-021-00	CERAMIC CHIP 0.01MF 50V	
C227	1-163-111-00	CERAMIC CHIP 56PF	5%	50V	C338	1-163-009-11	CERAMIC CHIP 0.001MF 10%	50V
C228	1-163-133-00	CERAMIC CHIP 470PF	5%	50V	C339	1-163-037-11	CERAMIC CHIP 0.022MF 10%	25V
C229	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V	C340	1-135-072-21	TANTAL. CHIP 0.22MF 10%	35V
C230	1-163-121-00	CERAMIC CHIP 150PF	5%	50V	C341	1-135-099-85	TANTAL. CHIP 2.2MF 10%	6.3V
C231	1-163-111-00	CERAMIC CHIP 56PF	5%	50V	C342	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C232	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	C343	1-135-099-85	TANTAL. CHIP 2.2MF 10%	6.3V
C233	1-163-021-00	CERAMIC CHIP 0.01MF	50V	C344	1-135-099-85	TANTAL. CHIP 2.2MF 10%	6.3V	
C234	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	C345	1-163-009-11	CERAMIC CHIP 0.001MF 10%	50V
C235	1-135-099-85	TANTAL. CHIP 2.2MF	10%	6.3V	C346	1-163-021-00	CERAMIC CHIP 0.01MF 50V	
C236	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C349	1-163-021-00	CERAMIC CHIP 0.01MF 50V		
C237	1-124-778-00	ELECT 22MF	20%	6.3V	C350	1-163-021-00	CERAMIC CHIP 0.01MF 50V	
C238	1-124-778-00	ELECT 22MF	20%	6.3V	C351	1-163-035-00	CERAMIC CHIP 0.047MF 50V	
C239	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	C352	1-163-021-00	CERAMIC CHIP 0.01MF 50V	
C240	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C353	1-135-150-21	TANTAL. CHIP 3.3MF 10%	6.3V	
C241	1-163-021-00	CERAMIC CHIP 0.01MF	50V	C354	1-163-021-00	CERAMIC CHIP 0.001MF 50V		
C242	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V	C355	1-163-093-00	CERAMIC CHIP 10PF 5%	50V
C301	1-135-101-81	TANTAL. CHIP 22MF	20%	6.3V	C356	1-163-009-11	CERAMIC CHIP 0.001MF 10%	50V
C302	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C357	1-163-009-11	CERAMIC CHIP 0.001MF 10%	50V	
C303	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C358	1-163-009-11	CERAMIC CHIP 0.001MF 10%	50V	
C304	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	C359	1-135-150-21	TANTAL. CHIP 3.3MF 10%	6.3V
C305	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V	C360	1-163-019-00	CERAMIC CHIP 0.0068MF 10%	50V
C306	1-163-021-00	CERAMIC CHIP 0.01MF	50V	C361	1-135-099-85	TANTAL. CHIP 2.2MF 10%	6.3V	
C307	1-163-275-91	CERAMIC CHIP 0.001MF	5%	50V	C362	1-163-145-00	CERAMIC CHIP 0.0015MF 10%	50V
C308	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	C363	1-163-275-91	CERAMIC CHIP 0.001MF 5%	50V
C309	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V	C364	1-135-157-21	TANTAL. CHIP 10MF 20%	6.3V
C310	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	C365	1-163-038-00	CERAMIC CHIP 0.1MF 25V	

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Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
C366	1-163-118-00	CERAMIC CHIP 110PF	5% 50V	C701	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C367	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	C702	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C368	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C703	1-135-101-81	TANTAL. CHIP 22MF	20% 6.3V
C369	1-163-021-00	CERAMIC CHIP 0.01MF	5% 50V	C704	1-135-157-21	TANTAL. CHIP 10MF	20% 6.3V
C370	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C707	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C371	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C708	1-135-151-21	TANTAL. CHIP 4.7MF	20% 4V
C372	1-126-205-11	ELECT 47MF	20% 6.3V	C709	1-135-101-81	TANTAL. CHIP 22MF	20% 6.3V
C373	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C711	1-135-151-21	TANTAL. CHIP 4.7MF	20% 4V
C374	1-163-113-00	CERAMIC CHIP 68PF	5% 50V	C712	1-135-158-21	TANTAL. CHIP 15MF	20% 4V
C375	1-163-129-00	CERAMIC CHIP 330PF	5% 50V	C713	1-135-158-21	TANTAL. CHIP 15MF	20% 4V
C376	1-163-129-00	CERAMIC CHIP 330PF	5% 50V	C714	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C377	1-163-109-00	CERAMIC CHIP 47PF	5% 50V	C715	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C378	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C716	1-163-119-00	CERAMIC CHIP 120PF	5% 50V
C379	1-163-129-00	CERAMIC CHIP 330PF	5% 50V	C717	1-163-115-00	CERAMIC CHIP 82PF	5% 50V
C380	1-163-113-00	CERAMIC CHIP 68PF	5% 50V	C718	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C381	1-163-111-00	CERAMIC CHIP 56PF	5% 50V	C719	1-163-129-00	CERAMIC CHIP 330PF	5% 50V
C382	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C720	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
C383	1-163-129-00	CERAMIC CHIP 330PF	5% 50V	C721	1-163-111-00	CERAMIC CHIP 56PF	5% 50V
C384	1-163-129-00	CERAMIC CHIP 330PF	5% 50V	C722	1-124-778-00	ELECT 22MF	20% 6.3V
C500	1-163-127-00	CERAMIC CHIP 270PF	5% 50V	C723	1-163-092-00	CERAMIC CHIP 9PF	0.25PF 50V
C501	1-163-119-00	CERAMIC CHIP 120PF	5% 50V	C728	1-135-157-21	TANTAL. CHIP 10MF	20% 6.3V
C502	1-163-127-00	CERAMIC CHIP 270PF	5% 50V	C801	1-163-036-00	CERAMIC CHIP 0.047MF	5% 50V
C503	1-163-109-00	CERAMIC CHIP 47PF	5% 50V	C802	1-163-021-00	CERAMIC CHIP 0.01MF	50V
C504	1-124-778-00	ELECT 22MF	20% 6.3V	C803	1-124-225-00	ELECT 100MF	20% 6.3V
C505	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C804	1-126-206-11	ELECT 100MF	20% 6.3V
C506	1-163-035-00	CERAMIC CHIP 0.047MF	5% 50V	C805	1-135-091-00	TANTAL. CHIP 1MF	20% 16V
C507	1-163-097-00	CERAMIC CHIP 15PF	5% 50V	C806	1-135-157-21	TANTAL. CHIP 10MF	20% 6.3V
C508	1-163-107-00	CERAMIC CHIP 39PF	5% 50V	C807	1-135-151-21	TANTAL. CHIP 4.7MF	20% 4V
C509	1-163-107-00	CERAMIC CHIP 39PF	5% 50V	C808	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C510	1-163-111-00	CERAMIC CHIP 56PF	5% 50V	C809	1-126-206-11	ELECT 100MF	20% 6.3V
C511	1-163-275-91	CERAMIC CHIP 0.001MF	5% 50V	C810	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C512	1-163-021-00	CERAMIC CHIP 0.01MF	50V	C811	1-126-206-11	ELECT 100MF	20% 6.3V
C513	1-163-021-00	CERAMIC CHIP 0.01MF	50V	C812	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C514	1-163-021-00	CERAMIC CHIP 0.01MF	50V	C813	1-126-206-11	ELECT 100MF	20% 6.3V
C515	1-163-021-00	CERAMIC CHIP 0.01MF	50V	C814	1-126-206-11	ELECT 100MF	20% 6.3V
C516	1-163-021-00	CERAMIC CHIP 0.01MF	50V	C815	1-163-019-00	CERAMIC CHIP 0.0068MF	10% 50V
C517	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C901	1-124-442-00	ELECT 330MF	20% 6.3V
C518	1-163-021-00	CERAMIC CHIP 0.01MF	50V	C902	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C519	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C903	1-135-101-81	TANTAL. CHIP 22MF	20% 6.3V
C520	1-163-145-00	CERAMIC CHIP 0.0015MF	5% 50V	C904	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C525	1-163-035-00	CERAMIC CHIP 0.047MF	5% 50V	C905	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C526	1-163-127-00	CERAMIC CHIP 270PF	5% 50V				
C527	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C528	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V				
C529	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C530	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C531	1-163-095-00	CERAMIC CHIP 12PF	5% 50V				
C532	1-163-035-00	CERAMIC CHIP 0.047MF	5% 50V				
C533	1-135-157-21	TANTAL. CHIP 10MF	20% 6.3V				
C534	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C535	1-163-101-00	CERAMIC CHIP 22PF	5% 50V				
C536	1-163-129-00	CERAMIC CHIP 330PF	5% 50V				
C537	1-163-127-00	CERAMIC CHIP 270PF	5% 50V				

CONNECTOR

CN101	1-566-943-11	CONNECTOR, BOARD TO BOARD 18P
CN102	1-566-943-11	CONNECTOR, BOARD TO BOARD 18P
CN103	1-566-943-11	CONNECTOR, BOARD TO BOARD 18P

TRIMMER

CV301	1-141-331-11	CAP, VAR, TRIMMER (CHIP)
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DIODE

D101	8-719-107-23	DIODE 1SS123
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When indicating parts by reference number, please include the board name.

f.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
I102	8-719-101-23	DIODE 1SS123		L305	1-408-781-00	INDUCTOR CHIP 22UH	
I103	8-719-101-23	DIODE 1SS123		L307	1-408-781-00	INDUCTOR CHIP 22UH	
I104	8-719-801-48	DIODE 1SS193		L308	1-408-948-00	INDUCTOR 220UH	
I105	8-719-801-48	DIODE 1SS193		L309	1-408-789-21	INDUCTOR CHIP 100UH	
I201	8-719-101-23	DIODE 1SS123		L310	1-408-790-00	INDUCTOR CHIP 120UH	
I202	8-719-801-48	DIODE 1SS193		L311	1-408-791-00	INDUCTOR CHIP 150UH	
I203	8-719-801-48	DIODE 1SS193		L501	1-408-795-21	INDUCTOR CHIP 330UH	
I301	8-719-101-23	DIODE 1SS123		L502	1-408-790-00	INDUCTOR CHIP 120UH	
I302	8-719-101-23	DIODE 1SS123		L503	1-408-782-11	INDUCTOR CHIP 27UH	
I303	8-719-100-05	DIODE 1S2837		L504	1-408-408-00	INDUCTOR 8.2UH	
I304	8-719-101-23	DIODE 1SS123		L505	1-410-167-41	INDUCTOR CHIP 820UH	
I501	8-719-101-23	DIODE 1SS123		L508	1-408-792-00	INDUCTOR CHIP 180UH	
I801	8-719-801-48	DIODE 1SS193		L509	1-408-783-00	INDUCTOR CHIP 33UH	
I901	8-719-801-48	DIODE 1SS193		L510	1-408-783-00	INDUCTOR CHIP 33UH	
I902	8-719-801-48	DIODE 1SS193		L511	1-408-777-00	INDUCTOR CHIP 10UH	
<u>DELAY LINE</u>				L701	1-408-780-21	INDUCTOR CHIP 18UH	
XL201	1-415-517-11	DELAY LINE, DUAL TH-2H		L702	1-408-786-21	INDUCTOR CHIP 56UH	
<u>IC</u>				L703	1-408-788-21	INDUCTOR CHIP 82UH	
IC101	8-759-932-15	IC CX20030		L704	1-408-785-21	INDUCTOR CHIP 56UH	
IC102	8-759-925-60	IC BA401		L705	1-408-777-00	INDUCTOR CHIP 10UH	
IC103	8-759-009-07	IC MC14053BF		L706	1-408-791-00	INDUCTOR CHIP 150UH	
IC201	8-752-003-10	IC CX20031		L707	1-408-790-00	INDUCTOR CHIP 120UH	
IC301	8-752-003-23	IC CX20032		L801	1-407-169-KX	INDUCTOR 100UH	
IC302	8-759-924-94	IC CX22021		<u>VARIABLE COIL</u>			
IC303	8-759-914-56	IC CX23054		LV201	1-404-594-11	COIL, VARIABLE	
IC304	8-759-202-67	IC CX20117		<u>TRANSISTOR</u>			
IC305	8-759-710-09	IC NJM2233AM		Q101	8-729-100-66	TRANSISTOR 2SC1623	
IC801	8-741-150-50	IC SRX1505		Q102	8-729-100-66	TRANSISTOR 2SC1623	
IC901	8-759-204-96	IC TC74NCDAF		Q103	8-729-901-04	TRANSISTOR DTA114EK	
<u>COIL</u>				Q104	8-729-901-04	TRANSISTOR DTA114EK	
L101	1-408-789-21	INDUCTOR CHIP 100UH		Q105	8-729-901-04	TRANSISTOR DTA114EK	
L102	1-408-795-21	INDUCTOR CHIP 330UH		Q106	8-729-100-66	TRANSISTOR 2SC1623	
L103	1-408-789-21	INDUCTOR CHIP 100UH		Q107	8-729-901-04	TRANSISTOR DTA114EK	
L104	1-407-169-KX	INDUCTOR 100UH		Q108	8-729-901-04	TRANSISTOR DTA114EK	
L201	1-408-974-21	INDUCTOR 22UH		Q109	8-729-901-04	TRANSISTOR DTA114EK	
L202	1-408-795-21	INDUCTOR CHIP 330UH		Q110	8-729-100-66	TRANSISTOR 2SC1623	
L203	1-408-781-00	INDUCTOR CHIP 22UH		Q111	8-729-100-66	TRANSISTOR 2SC1623	
L204	1-408-785-21	INDUCTOR CHIP 47UH		Q112	8-729-100-66	TRANSISTOR 2SC1623	
L205	1-408-788-21	INDUCTOR CHIP 82UH		Q113	8-729-320-17	TRANSISTOR 2SA1122CD	
L206	1-408-785-21	INDUCTOR CHIP 47UH		Q114	8-729-320-17	TRANSISTOR 2SA1122CD	
L207	1-408-787-00	INDUCTOR CHIP 68UH		Q115	8-729-320-17	TRANSISTOR 2SA1122CD	
L208	1-408-787-00	INDUCTOR CHIP 68UH		Q116	8-729-320-17	TRANSISTOR 2SA1122CD	
L209	1-408-765-21	INDUCTOR CHIP 1UH		Q117	8-729-100-66	TRANSISTOR 2SC1623	
L210	1-408-765-21	INDUCTOR CHIP 1UH		Q118	8-729-901-01	TRANSISTOR DTC144EK	
L211	1-408-777-00	INDUCTOR CHIP 10UH		Q119	8-729-100-66	TRANSISTOR 2SC1623	
L212	1-408-776-00	INDUCTOR CHIP 8.2UH		Q120	8-729-320-17	TRANSISTOR 2SA1122CD	
L301	1-407-169-KX	INDUCTOR 100UH		Q121	8-729-901-06	TRANSISTOR DTA114EK	
L302	1-408-792-00	INDUCTOR CHIP 180UH		Q122	8-729-901-01	TRANSISTOR DTC144EK	
L303	1-408-788-21	INDUCTOR CHIP 82UH		Q123	8-729-100-66	TRANSISTOR 2SC1623	
L304	1-408-775-41	INDUCTOR CHIP 6.8UH		Q124	8-729-901-01	TRANSISTOR DTC144EK	
				Q201	8-729-100-66	TRANSISTOR 2SC1623	

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
Q202	8-729-320-17	TRANSISTOR 2SA1122CD		Q903	8-729-901-01	TRANSISTOR DTC144EK	
Q203	8-729-100-66	TRANSISTOR 2SC1623		Q904	8-729-901-01	TRANSISTOR DTC144EK	
Q204	8-729-100-66	TRANSISTOR 2SC1623		Q905	8-729-901-01	TRANSISTOR DTC144EK	
Q205	8-729-100-66	TRANSISTOR 2SC1623		RESISTOR			
Q206	8-729-320-17	TRANSISTOR 2SA1122CD		R101	1-216-669-11	METAL CHIP 5.6K 0.50% 1/10W	
Q207	8-729-901-01	TRANSISTOR DTC144EK		R102	1-216-665-11	METAL CHIP 3.9K 0.50% 1/10W	
Q208	8-729-901-01	TRANSISTOR DTC144EK		R103	1-216-643-11	METAL CHIP 470 0.50% 1/10W	
Q209	8-729-901-00	TRANSISTOR DTC124EK		R104	1-216-639-11	METAL CHIP 330 0.50% 1/10W	
Q210	8-729-901-01	TRANSISTOR DTC144EK		R105	1-216-641-11	METAL CHIP 390 0.50% 1/10W	
Q211	8-729-901-01	TRANSISTOR DTC144EK		R106	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
Q212	8-729-901-00	TRANSISTOR DTC124EK		R107	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
Q301	8-729-100-66	TRANSISTOR 2SC1623		R108	1-216-633-11	METAL CHIP 180 0.50% 1/10W	
Q302	8-729-100-66	TRANSISTOR 2SC1623		R109	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
Q303	8-729-100-66	TRANSISTOR 2SC1623		R110	1-216-653-11	METAL CHIP 1.2K 0.50% 1/10W	
Q304	8-729-100-66	TRANSISTOR 2SC1623		R111	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
Q305	8-729-901-04	TRANSISTOR PMS2		R112	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
Q306	8-729-900-98	TRANSISTOR DTC143TK		R113	1-216-665-11	METAL CHIP 3.9K 0.50% 1/10W	
Q307	8-729-100-66	TRANSISTOR 2SC1623		R114	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
Q308	8-729-100-66	TRANSISTOR 2SC1623		R115	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
Q309	8-729-901-00	TRANSISTOR DTC124EK		R116	1-216-671-11	METAL CHIP 6.8K 0.50% 1/10W	
Q310	8-729-320-17	TRANSISTOR 2SA1122CD		R117	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
Q501	8-729-100-66	TRANSISTOR 2SC1623		R118	1-216-647-11	METAL CHIP 680 0.50% 1/10W	
Q502	8-729-320-17	TRANSISTOR 2SA1122CD		R119	1-216-635-11	METAL CHIP 220 0.50% 1/10W	
Q503	8-729-100-66	TRANSISTOR 2SC1623		R120	1-216-637-11	METAL CHIP 270 0.50% 1/10W	
Q504	8-729-320-17	TRANSISTOR 2SA1122CD		R121	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
Q505	8-729-901-01	TRANSISTOR DTC144EK		R122	1-216-655-11	METAL CHIP 1.5K 0.50% 1/10W	
Q506	8-729-100-66	TRANSISTOR 2SC1623		R123	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q507	8-729-100-66	TRANSISTOR 2SC1623		R124	1-216-647-11	METAL CHIP 680 0.50% 1/10W	
Q508	8-729-901-05	TRANSISTOR DTA144EK		R125	1-216-647-11	METAL CHIP 680 0.50% 1/10W	
Q509	8-729-601-59	TRANSISTOR 2SC3053TP-XD		R126	1-216-055-00	METAL GLAZE 4.7K 5% 1/10W	
Q510	8-729-100-66	TRANSISTOR 2SC1623		R127	1-216-055-00	METAL GLAZE 4.7K 5% 1/10W	
Q511	8-729-100-66	TRANSISTOR 2SC1623		R128	1-216-657-11	METAL CHIP 4.7K 0.50% 1/10W	
Q512	8-729-100-66	TRANSISTOR 2SC1623		R129	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
Q513	8-729-901-05	TRANSISTOR DTA144EK		R130	1-216-637-11	METAL CHIP 270 0.50% 1/10W	
Q701	8-729-100-66	TRANSISTOR 2SC1623		R131	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q702	8-729-100-66	TRANSISTOR 2SC1623		R132	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
Q703	8-729-100-66	TRANSISTOR 2SC1623		R133	1-216-653-11	METAL CHIP 1.2K 0.50% 1/10W	
Q704	8-729-100-66	TRANSISTOR 2SC1623		R134	1-216-091-00	METAL GLAZE 22K 5% 1/10W	
Q705	8-729-100-66	TRANSISTOR 2SC1623		R135	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
Q706	8-729-100-66	TRANSISTOR 2SC1623		R136	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
Q708	8-729-100-66	TRANSISTOR 2SC1623		R137	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
Q709	8-729-100-66	TRANSISTOR 2SC1623		R138	1-216-657-11	METAL CHIP 1.8K 0.50% 1/10W	
Q710	8-729-100-66	TRANSISTOR 2SC1623		R139	1-216-664-11	METAL CHIP 3.6K 0.50% 1/10W	
Q711	8-729-100-66	TRANSISTOR 2SC1623		R140	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
Q712	8-729-901-05	TRANSISTOR DTA144EK		R141	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
Q713	8-729-100-66	TRANSISTOR 2SC1623		R142	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
Q714	8-729-100-66	TRANSISTOR 2SC1623		R143	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
Q715	8-729-100-66	TRANSISTOR 2SC1623		R144	1-216-661-11	METAL CHIP 2.7K 0.50% 1/10W	
Q716	8-729-100-66	TRANSISTOR 2SC1623		R145	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
Q801	8-729-100-66	TRANSISTOR 2SC1623		R146	1-216-055-00	METAL GLAZE 4.7K 5% 1/10W	
Q902	8-729-901-05	TRANSISTOR DTA124EK		R147	1-216-641-11	METAL CHIP 390 0.50% 1/10W	
Q901	8-729-104-25	TRANSISTOR 2SB804-AW		R148	1-216-091-00	METAL GLAZE 22K 5% 1/10W	
Q902	8-729-901-00	TRANSISTOR DTC124EK					

When indicating parts by reference number, please include the board name.

Ref. No	Part No.	Description	Remark	Ref. No	Part No.	Description	Remark
R149	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R216	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R150	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R217	1-216-647-11	METAL CHIP	680 0.50% 1/10W
R151	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R218	1-216-647-11	METAL CHIP	680 0.50% 1/10W
R152	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R219	1-216-653-11	METAL CHIP	1.2K 0.50% 1/10W
R153	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R220	1-216-655-11	METAL CHIP	1.5K 0.50% 1/10W
R154	1-216-691-11	METAL CHIP	47K 0.50% 1/10W	R221	1-216-647-11	METAL CHIP	680 0.50% 1/10W
R155	1-216-693-11	METAL CHIP	56K 0.50% 1/10W	R222	1-216-647-11	METAL CHIP	680 0.50% 1/10W
R156	1-216-643-11	METAL CHIP	470 0.50% 1/10W	R223	1-216-651-11	METAL CHIP	1K 0.50% 1/10W
R157	1-216-693-11	METAL CHIP	22K 0.50% 1/10W	R224	1-216-649-11	METAL CHIP	820 0.50% 1/10W
R158	1-216-643-11	METAL CHIP	470 0.50% 1/10W	R225	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R159	1-216-653-11	METAL CHIP	1.2K 0.50% 1/10W	R226	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R160	1-216-667-11	METAL CHIP	4.7K 0.50% 1/10W	R227	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R161	1-216-667-11	METAL CHIP	4.7K 0.50% 1/10W	R228	1-216-667-11	METAL CHIP	4.7K 0.50% 1/10W
R162	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R229	1-216-663-11	METAL CHIP	1.2K 0.50% 1/10W
R163	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R230	1-216-667-11	METAL CHIP	4.7K 0.50% 1/10W
R164	1-216-699-11	METAL CHIP	100K 0.50% 1/10W	R231	1-216-647-11	METAL CHIP	680 0.50% 1/10W
R165	1-216-699-11	METAL CHIP	100K 0.50% 1/10W	R232	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R166	1-216-679-11	METAL CHIP	15K 0.50% 1/10W	R233	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R167	1-216-649-11	METAL CHIP	820 0.50% 1/10W	R234	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R168	1-216-649-11	METAL CHIP	820 0.50% 1/10W	R235	1-216-748-11	METAL GLAZE	39K 5% 1/10W
R170	1-216-637-11	METAL CHIP	270 0.50% 1/10W	R236	1-216-627-11	METAL CHIP	100 0.50% 1/10W
R171	1-216-639-11	METAL CHIP	330 0.50% 1/10W	R237	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R172	1-216-645-11	METAL CHIP	560 0.50% 1/10W	R238	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R173	1-216-659-11	METAL CHIP	2.2K 0.50% 1/10W	R239	1-216-687-11	METAL CHIP	33K 0.50% 1/10W
R174	1-249-419-11	CARBON	1K 5% 1/4W	R240	1-216-683-11	METAL CHIP	22K 0.50% 1/10W
R175	1-216-695-11	METAL CHIP	68K 0.50% 1/10W	R241	1-216-679-11	METAL CHIP	15K 0.50% 1/10W
R177	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R242	1-216-659-11	METAL CHIP	2.2K 0.50% 1/10W
R178	1-216-109-00	METAL GLAZE	330K 5% 1/10W	R243	1-216-641-11	METAL CHIP	390 0.50% 1/10W
R180	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R244	1-216-121-00	METAL GLAZE	1M 5% 1/10W
R181	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R245	1-216-117-00	METAL GLAZE	680K 5% 1/10W
R182	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R246	1-216-091-00	METAL GLAZE	22K 5% 1/10W
R183	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R247	1-216-075-00	METAL GLAZE	12K 5% 1/10W
R184	1-216-099-00	METAL GLAZE	120K 5% 1/10W	R248	1-216-075-00	METAL GLAZE	12K 5% 1/10W
R185	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R249	1-216-629-11	METAL CHIP	120 0.50% 1/10W
R186	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R250	1-216-627-11	METAL CHIP	100 0.50% 1/10W
R189	1-216-101-00	METAL GLAZE	150K 5% 1/10W	R251	1-216-611-11	METAL CHIP	22 0.50% 1/10W
R190	1-216-647-11	METAL CHIP	680 0.50% 1/10W	R252	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R200	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R253	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R201	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R254	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R202	1-216-655-11	METAL CHIP	1.5K 0.50% 1/10W	R255	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R203	1-216-637-11	METAL CHIP	270 0.50% 1/10W	R256	1-216-641-11	METAL CHIP	390 0.50% 1/10W
R204	1-216-013-00	METAL GLAZE	33 5% 1/10W	R257	1-216-629-11	METAL CHIP	120 0.50% 1/10W
R205	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R258	1-216-637-11	METAL CHIP	270 0.50% 1/10W
R206	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R259	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R207	1-216-111-00	METAL GLAZE	390K 5% 1/10W	R301	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R208	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R302	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R209	1-216-695-11	METAL CHIP	68K 0.50% 1/10W	R303	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R210	1-216-643-11	METAL CHIP	470 0.50% 1/10W	R304	1-216-659-11	METAL CHIP	2.2K 0.50% 1/10W
R211	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R305	1-216-645-11	METAL CHIP	560 0.50% 1/10W
R212	1-216-643-11	METAL CHIP	470 0.50% 1/10W	R306	1-216-667-11	METAL CHIP	4.7K 0.50% 1/10W
R213	1-216-651-11	METAL CHIP	1K 0.50% 1/10W	R307	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R214	1-216-651-11	METAL CHIP	1K 0.50% 1/10W	R308	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R215	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R309	1-216-081-00	METAL GLAZE	22K 5% 1/10W

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R310	1-216-661-11	METAL CHIP	2.7K 0.50% 1/10W	R364	1-216-661-11	METAL CHIP	2.7K 0.50% 1/10W
R311	1-216-651-11	METAL CHIP	1K 0.50% 1/10W	R365	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R312	1-216-683-11	METAL CHIP	22K 0.50% 1/10W	R366	1-216-695-11	METAL CHIP	68K 0.50% 1/10W
R313	1-216-667-11	METAL CHIP	100 0.50% 1/10W	R367	1-216-645-11	METAL CHIP	560 0.50% 1/10W
R314	1-216-667-11	METAL CHIP	4.7K 0.50% 1/10W	R368	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R315	1-216-679-11	METAL CHIP	15K 0.50% 1/10W	R369	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R316	1-216-639-11	METAL CHIP	330 0.50% 1/10W	R370	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R317	1-216-679-11	METAL CHIP	15K 0.50% 1/10W	R371	1-216-055-00	METAL GLAZE	4.7K 5% 1/10W
R318	1-216-651-11	METAL CHIP	1K 0.50% 1/10W	R372	1-216-643-11	METAL CHIP	470 0.50% 1/10W
R319	1-216-651-11	METAL CHIP	1K 0.50% 1/10W	R373	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R320	1-216-659-11	METAL CHIP	2.2K 0.50% 1/10W	R374	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R321	1-216-103-00	METAL GLAZE	180K 5% 1/10W	R375	1-216-661-11	METAL CHIP	2.7K 0.50% 1/10W
R322	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R376	1-216-121-00	METAL GLAZE	1M 5% 1/10W
R323	1-216-105-00	METAL GLAZE	220K 5% 1/10W	R377	1-216-641-11	METAL CHIP	390 0.50% 1/10W
R324	1-216-655-11	METAL CHIP	1.5K 0.50% 1/10W	R378	1-216-115-00	METAL GLAZE	560K 5% 1/10W
R325	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R379	1-216-659-11	METAL CHIP	2.2K 0.50% 1/10W
R326	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R380	1-216-667-11	METAL CHIP	4.7K 0.50% 1/10W
R327	1-216-699-11	METAL CHIP	100K 0.50% 1/10W	R382	1-216-651-11	METAL CHIP	1K 0.50% 1/10W
R328	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R383	1-216-635-11	METAL CHIP	220 0.50% 1/10W
R329	1-216-659-11	METAL CHIP	2.2K 0.50% 1/10W	R384	1-216-641-11	METAL CHIP	390 0.50% 1/10W
R330	1-216-671-11	METAL CHIP	6.8K 0.50% 1/10W	R385	1-216-635-11	METAL CHIP	220 0.50% 1/10W
R331	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R386	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R332	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R387	1-216-655-11	METAL CHIP	3.9K 0.50% 1/10W
R333	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R388	1-216-661-11	METAL CHIP	2.7K 0.50% 1/10W
R334	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R500	1-216-661-11	METAL CHIP	2.7K 0.50% 1/10W
R335	1-216-295-00	METAL GLAZE	0 5% 1/10W	R501	1-216-631-11	METAL CHIP	150 0.50% 1/10W
R336	1-216-649-11	METAL CHIP	820 0.50% 1/10W	R502	1-216-649-11	METAL CHIP	820 0.50% 1/10W
R338	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R504	1-216-675-11	METAL CHIP	10K 0.50% 1/10W
R339	1-216-640-11	METAL CHIP	360 0.50% 1/10W	R505	1-216-645-11	METAL CHIP	560 0.50% 1/10W
R340	1-216-031-00	METAL GLAZE	180 5% 1/10W	R506	1-216-645-11	METAL CHIP	560 0.50% 1/10W
R341	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R507	1-216-641-11	METAL CHIP	390 0.50% 1/10W
R342	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R508	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R343	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W	R509	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R344	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R510	1-216-643-11	METAL CHIP	470 0.50% 1/10W
R345	1-216-647-11	METAL CHIP	680 0.50% 1/10W	R511	1-216-653-11	METAL CHIP	1.2K 0.50% 1/10W
R346	1-216-641-11	METAL CHIP	390 0.50% 1/10W	R512	1-216-643-11	METAL CHIP	470 0.50% 1/10W
R347	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R513	1-216-643-11	METAL CHIP	470 0.50% 1/10W
R348	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R514	1-216-643-11	METAL CHIP	470 0.50% 1/10W
R349	1-216-655-11	METAL CHIP	1.5K 0.50% 1/10W	R515	1-216-641-11	METAL CHIP	390 0.50% 1/10W
R350	1-216-655-11	METAL CHIP	1.5K 0.50% 1/10W	R516	1-216-637-11	METAL CHIP	270 0.50% 1/10W
R351	1-216-655-11	METAL CHIP	1.5K 0.50% 1/10W	R517	1-216-659-11	METAL CHIP	2.2K 0.50% 1/10W
R352	1-216-655-11	METAL CHIP	1.5K 0.50% 1/10W	R518	1-216-651-11	METAL CHIP	1K 0.50% 1/10W
R353	1-216-655-11	METAL CHIP	1.5K 0.50% 1/10W	R519	1-216-643-11	METAL CHIP	470 0.50% 1/10W
R354	1-216-667-11	METAL CHIP	4.7K 0.50% 1/10W	R520	1-216-653-11	METAL CHIP	1.2K 0.50% 1/10W
R355	1-216-665-11	METAL CHIP	3.9K 0.50% 1/10W	R521	1-216-674-11	METAL CHIP	9.1K 0.50% 1/10W
R356	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R522	1-216-649-11	METAL CHIP	820 0.50% 1/10W
R357	1-216-099-00	METAL GLAZE	120K 5% 1/10W	R523	1-216-647-11	METAL CHIP	680 0.50% 1/10W
R358	1-216-699-11	METAL CHIP	100K 0.50% 1/10W	R524	1-216-647-11	METAL CHIP	680 0.50% 1/10W
R359	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R525	1-216-651-11	METAL CHIP	1K 0.50% 1/10W
R360	1-216-095-00	METAL GLAZE	82K 5% 1/10W	R526	1-216-637-11	METAL CHIP	270 0.50% 1/10W
R361	1-216-295-00	METAL GLAZE	0 5% 1/10W	R527	1-216-637-11	METAL CHIP	270 0.50% 1/10W
R362	1-216-295-00	METAL GLAZE	0 5% 1/10W	R528	1-216-643-11	METAL CHIP	470 0.50% 1/10W
R363	1-216-679-11	METAL CHIP	15K 0.50% 1/10W	R529	1-216-679-11	METAL CHIP	15K 0.50% 1/10W

When indicating parts by reference number, please include the board name.

HK-3

FR-30P

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
RV202	1-230-870-11	RES, ADJ, METAL GLAZE 10K		C305	1-163-021-00	CERAMIC CHIP 0.01MF	50V
RV301	1-230-871-11	RES, ADJ, METAL GLAZE 22K		C401	1-163-021-00	CERAMIC CHIP 0.01MF	50V
RV302	1-230-870-11	RES, ADJ, METAL GLAZE 10K		C402	1-163-038-00	CERAMIC CHIP 0.1MF	25V
RV303	1-230-873-11	RES, ADJ, METAL GLAZE 47K		C403	1-163-117-00	CERAMIC CHIP 100PF	50V
RV304	1-237-576-21	RES, ADJ, METAL GLAZE 220K		C404	1-163-117-00	CERAMIC CHIP 100PF	50V
RV305	1-230-868-11	RES, ADJ, METAL GLAZE 2.2K		C405	1-163-121-00	CERAMIC CHIP 150PF	50V
RV501	1-237-433-21	RES, ADJ, METAL GLAZE 470		C406	1-163-117-00	CERAMIC CHIP 100PF	50V
RV502	1-237-433-21	RES, ADJ, METAL GLAZE 470		C501	1-163-021-00	CERAMIC CHIP 0.01MF	50V
RV701	1-230-868-11	RES, ADJ, METAL GLAZE 2.2K		C504	1-126-157-11	ELECT 10MF	20V
				C507	1-126-157-11	ELECT 10MF	20V
<u>TRANSFORMER</u>				C508	1-163-035-00	CERAMIC CHIP 0.047MF	50V
T301	1-409-396-11	REC C TRAP		C509	1-163-809-11	CERAMIC CHIP 0.047MF	10V
T302	1-235-437-11	BPF, PB C		C510	1-163-809-11	CERAMIC CHIP 0.047MF	10V
T303	1-409-394-11	TRAP, CHROMA EMPHASIS		C511	1-163-809-11	CERAMIC CHIP 0.047MF	10V
T304	1-235-632-11	BPF		C512	1-163-035-00	CERAMIC CHIP 0.047MF	50V
T305	1-235-633-11	BPF		C513	1-126-157-11	ELECT 10MF	20V
T501	1-409-397-11	TRAP		C514	1-163-021-00	CERAMIC CHIP 0.01MF	50V
T801	1-236-145-11	FILTER, BAND PASS		C515	1-163-035-00	CERAMIC CHIP 0.047MF	50V
<u>THERMISTOR</u>				C601	1-135-169-21	TANTAL CHIP 10MF	20V
TH101	1-800-954-11	THERMISTOR S-3K		C602	1-163-038-00	CERAMIC CHIP 0.1MF	25V
<u>CRYSTAL</u>				<u>CONNECTOR</u>			
X201	1-567-347-11	OSCILLATOR, CERAMIC (13.3MHz)		CN101	1-562-629-11	SOCKET, CONNECTOR 19P	
X301	1-527-345-81	OSCILLATOR, CRYSTAL (4.43MHz)		CN102	1-565-209-11	CONNECTOR, FPC (ZIF) 26P	
*****				CN103	*1-564-006-21	PIN, CONNECTOR 7P	
*****				CN104	1-506-472-11	PIN, CONNECTOR 7P	
*****				<u>DIODE</u>			
*****				D101	8-719-100-05	DIODE 1S2837	
*****				<u>IC</u>			
*****				IC501	8-759-927-52	IC BA7036LS	
*****				IC502	8-759-100-93	IC UPC93932	
*****				<u>COIL</u>			
*****				L201	1-410-389-11	INDUCTOR CHIP 47UH	
*****				L301	1-408-777-00	INDUCTOR CHIP 10UH	
*****				L401	1-408-793-21	INDUCTOR CHIP 220UH	
*****				L402	1-408-777-00	INDUCTOR CHIP 10UH	
*****				L501	1-408-777-00	INDUCTOR CHIP 10UH	
*****				<u>TRANSISTOR</u>			
*****				Q101	8-729-202-38	TRANSISTOR 2SC3326N	
*****				Q102	8-729-202-38	TRANSISTOR 2SC3326N	
*****				Q103	8-729-202-38	TRANSISTOR 2SC3326N	
*****				Q104	8-729-202-38	TRANSISTOR 2SC3326N	
*****				Q105	8-729-901-05	TRANSISTOR DTA124EX	
*****				Q106	8-729-901-05	TRANSISTOR DTA124EX	
*****				Q107	8-729-901-01	TRANSISTOR DTC144EX	
*****				Q108	8-729-901-01	TRANSISTOR DTC144EX	
*****				Q109	8-729-320-17	TRANSISTOR 2SA1122CO	
*****				Q201	8-729-901-01	TRANSISTOR DTC144EX	
*****				Q202	8-729-901-02	TRANSISTOR DTC124XX	

When indicating parts by reference number, please include the board name.

FR-30P

RP-52P

ef.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
3203	8-729-100-66	TRANSISTOR 25C1623		R406	1-216-005-00	METAL GLAZE 15 5%	1/10W
3204	8-729-100-66	TRANSISTOR 25C1623		R408	1-216-081-00	METAL GLAZE 22K 5%	1/10W
3205	8-729-901-02	TRANSISTOR DTC1144X		R409	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
3301	8-729-100-66	TRANSISTOR 25C1623		R501	1-216-069-00	METAL GLAZE 5.8K 5%	1/10W
3302	8-729-102-08	TRANSISTOR 25C2223-F14		R502	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W
0401	8-729-100-76	TRANSISTOR 25A812		R503	1-216-081-00	METAL GLAZE 22K 5%	1/10W
0402	8-729-117-54	TRANSISTOR 25A1175		R505	1-216-033-00	METAL GLAZE 220 5%	1/10W
0403	8-729-320-17	TRANSISTOR 25A1122CD		R506	1-216-085-00	METAL GLAZE 33K 5%	1/10W
0501	8-729-901-00	TRANSISTOR DTC1144X		R507	1-216-073-00	METAL GLAZE 10K 5%	1/10W
0502	8-729-901-04	TRANSISTOR DTA1144X		R508	1-216-073-00	METAL GLAZE 10K 5%	1/10W
0503	8-729-901-04	TRANSISTOR DTA1144X		R509	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
RESISTOR				R510	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
R101	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R511	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R102	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R512	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R103	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R513	1-216-025-00	METAL GLAZE 100 5%	1/10W
R104	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	*****			
R105	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	*A-7061-503-A RP-52 (P) BOARD, COMPLETE (Ref.No.10,000			
R106	1-216-097-00	METAL GLAZE 100K 5%	1/10W	***** Series)			
R107	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	CAPACITOR			
R108	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	C101	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V
R109	1-216-097-00	METAL GLAZE 100K 5%	1/10W	C102	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R110	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	C103	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V
R111	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	C104	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
R112	1-216-097-00	METAL GLAZE 100K 5%	1/10W	C105	1-163-077-00	CERAMIC CHIP 0.1MF	10% 25V
R116	1-216-073-00	METAL GLAZE 10K 5%	1/10W	C106	1-163-077-00	CERAMIC CHIP 0.1MF	10% 25V
R117	1-216-049-00	METAL GLAZE 1K 5%	1/10W	C107	1-163-038-00	CERAMIC CHIP 0.1MF	10% 25V
R118	1-216-089-00	METAL GLAZE 4.7K 5%	1/10W	C109	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R119	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	C110	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R120	1-216-025-00	METAL GLAZE 100 5%	1/10W	C111	1-135-101-81	TANTAL. CHIP 22MF	20% 6.3V
R121	1-216-025-00	METAL GLAZE 100 5%	1/10W	C112	1-163-038-00	CERAMIC CHIP 0.1MF	10% 25V
R122	1-216-025-00	METAL GLAZE 100 5%	1/10W	C113	1-163-077-00	CERAMIC CHIP 0.1MF	10% 25V
R123	1-216-025-00	METAL GLAZE 100 5%	1/10W	C114	1-163-077-00	CERAMIC CHIP 0.1MF	10% 25V
R124	1-216-025-00	METAL GLAZE 100 5%	1/10W	C115	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
R201	1-216-035-00	METAL GLAZE 270 5%	1/10W	C116	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V
R202	1-216-061-00	METAL GLAZE 22K 5%	1/10W	C117	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V
R203	1-216-085-00	METAL GLAZE 33K 5%	1/10W	C118	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R204	1-216-081-00	METAL GLAZE 22K 5%	1/10W	C119	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R205	1-216-037-00	METAL GLAZE 330 5%	1/10W	C120	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
R206	1-216-085-00	METAL GLAZE 33K 5%	1/10W	C121	1-163-038-00	CERAMIC CHIP 0.1MF	10% 25V
R207	1-216-061-00	METAL GLAZE 22K 5%	1/10W	C122	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R208	1-216-025-00	METAL GLAZE 100 5%	1/10W	C123	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R301	1-216-041-00	METAL GLAZE 470 5%	1/10W	C124	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R302	1-216-047-00	METAL GLAZE 820 5%	1/10W	C125	1-135-091-00	TANTAL. CHIP 1MF	20% 16V
R303	1-216-035-00	METAL GLAZE 270 5%	1/10W	C126	1-135-101-81	TANTAL. CHIP 22MF	20% 6.3V
R304	1-216-039-00	METAL GLAZE 390 5%	1/10W	C127	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R305	1-216-085-00	METAL GLAZE 33K 5%	1/10W	C128	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R306	1-216-077-00	METAL GLAZE 18K 5%	1/10W	C129	1-163-241-11	CERAMIC CHIP 39PF	5% 50V
R401	1-216-085-00	METAL GLAZE 33K 5%	1/10W	C130	1-135-091-00	TANTAL. CHIP 1MF	20% 16V
R402	1-216-081-00	METAL GLAZE 22K 5%	1/10W	C131	1-163-035-00	CERAMIC CHIP 0.047MF	10% 50V
R403	1-216-029-00	METAL GLAZE 150 5%	1/10W	C132	1-163-035-00	CERAMIC CHIP 0.047MF	10% 50V
R404	1-216-033-00	METAL GLAZE 220 5%	1/10W	C133	1-163-989-11	CERAMIC CHIP 0.033MF	10% 25V
R405	1-216-017-00	METAL GLAZE 47 5%	1/10W				

When indicating parts by reference number, please include the board name.

RP-52P
SE-7P

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
C134	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	*A-7061-504-A SE-7 (P) BOARD, COMPLETE (Ref.No.3,000 ***** Series)			
C135	1-163-909-11	CERAMIC CHIP 0.033MF	10% 25V				
<u>IC</u>				3-671-893-00 CLAMP (LOW TYPE)			
IC101	8-752-003-40	IC CX20034		*3-697-992-01 GUARD, REEL MOTOR			
<u>COIL</u>				<u>CAPACITOR</u>			
L101	1-408-794-00	INDUCTOR CHIP 270UH		C001	1-124-584-00	ELECT 100MF	20% 10V
L102	1-410-385-11	INDUCTOR CHIP 22UH		C002	1-163-038-00	CERAMIC CHIP 0.1MF	25V
L103	1-408-791-00	INDUCTOR CHIP 150UH		C003	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
L104	1-408-794-00	INDUCTOR CHIP 270UH		C004	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
L105	1-410-383-11	INDUCTOR CHIP 15UH		C020	1-124-584-00	ELECT 100MF	20% 10V
L106	1-408-797-11	INDUCTOR CHIP 470UH		C021	1-163-038-00	CERAMIC CHIP 0.1MF	25V
L107	1-410-381-11	INDUCTOR CHIP 10UH		C032	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
L108	1-410-383-11	INDUCTOR CHIP 15UH		C033	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
<u>RESISTOR</u>				C050	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R101	1-216-089-00	METAL GLAZE 47K 5%	1/10W	C051	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R102	1-216-082-00	METAL GLAZE 24K 5%	1/10W	C201	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
R103	1-216-081-00	METAL GLAZE 22K 5%	1/10W	C203	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
R104	1-216-056-00	METAL GLAZE 1.8K 5%	1/10W	C213	1-163-141-00	CERAMIC CHIP 0.001MF	50V
R105	1-216-055-00	METAL GLAZE 1.8K 5%	1/10W	C214	1-163-141-00	CERAMIC CHIP 0.001MF	50V
R106	1-216-081-00	METAL GLAZE 22K 5%	1/10W	C215	1-163-141-00	CERAMIC CHIP 0.001MF	50V
R107	1-216-081-00	METAL GLAZE 22K 5%	1/10W	C216	1-163-141-00	CERAMIC CHIP 0.001MF	50V
R108	1-216-081-00	METAL GLAZE 22K 5%	1/10W	C219	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R109	1-216-081-00	METAL GLAZE 22K 5%	1/10W	C220	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R110	1-216-089-00	METAL GLAZE 47K 5%	1/10W	C221	1-126-157-11	ELECT 10MF	20% 10V
R111	1-216-082-00	METAL GLAZE 24K 5%	1/10W	C222	1-163-021-00	CERAMIC CHIP 0.01MF	50V
R112	1-216-081-00	METAL GLAZE 22K 5%	1/10W	C223	1-163-021-00	CERAMIC CHIP 0.01MF	50V
R113	1-216-055-00	METAL GLAZE 1.8K 5%	1/10W	C224	1-163-021-00	CERAMIC CHIP 0.01MF	50V
R114	1-216-056-00	METAL GLAZE 1.8K 5%	1/10W	C225	1-163-021-00	CERAMIC CHIP 0.01MF	50V
R115	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W	C226	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R116	1-216-023-00	METAL GLAZE 82 5%	1/10W	C228	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R117	1-216-023-00	METAL GLAZE 82 5%	1/10W	C229	1-126-157-11	ELECT 10MF	20% 10V
R119	1-216-089-00	METAL GLAZE 47K 5%	1/10W	C230	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
R121	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W	C231	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
R122	1-216-085-00	METAL GLAZE 33K 5%	1/10W	C232	1-163-209-00	CERAMIC CHIP 0.0015MF	5% 50V
R123	1-216-081-00	METAL GLAZE 22K 5%	1/10W	C233	1-163-209-00	CERAMIC CHIP 0.0015MF	5% 50V
R124	1-216-085-00	METAL GLAZE 33K 5%	1/10W	C235	1-163-021-00	CERAMIC CHIP 0.01MF	50V
R125	1-216-081-00	METAL GLAZE 22K 5%	1/10W	C236	1-163-019-00	CERAMIC CHIP 0.0068MF	10% 50V
R126	1-216-296-00	METAL GLAZE 0 5%	1/8W	C237	1-124-967-11	ELECT 10MF	20% 10V
<u>VARIABLE RESISTOR</u>				C238	1-124-499-11	ELECT 1MF	20% 50V
RV101	1-230-871-11	RES, ADJ, METAL GLAZE 22K		C239	1-163-021-00	CERAMIC CHIP 0.01MF	50V
RV102	1-230-871-11	RES, ADJ, METAL GLAZE 22K		C240	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V
RV103	1-230-521-11	RES, ADJ, METAL GLAZE 2.2K		C241	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V
RV104	1-230-521-11	RES, ADJ, METAL GLAZE 2.2K		C242	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
*****				C243	1-124-768-11	ELECT 4.7MF	20% 50V
				C244	1-126-157-11	ELECT 10MF	20% 10V
				C245	1-163-038-00	CERAMIC CHIP 0.1MF	25V
				C246	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
				C247	1-124-767-00	ELECT 2.2MF	20% 50V
				C248	1-163-021-00	CERAMIC CHIP 0.01MF	50V
				C249	1-124-499-11	ELECT 1MF	20% 50V
				C250	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V

When indicating parts by reference number, please include the board name.

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Ref.No	Part No.	Description	Remark
D233	8-719-801-48	D100E 15S193	
D390	8-719-100-05	D100E 152837	
D451	8-719-100-05	D100E 152837	
D452	8-719-100-05	D100E 152837	
D462	8-719-801-48	D100E 15S193	
D463	8-719-100-03	D100E 152835	
D470	8-719-100-05	D100E 152837	
D485	8-719-801-48	D100E 15S193	
D611	8-719-100-03	D100E 152835	
D612	8-719-100-05	D100E 152837	
D613	8-719-100-05	D100E 152837	
D614	8-719-100-05	D100E 152837	
D620	8-719-100-05	D100E 152837	
D701	8-719-100-05	D100E 152837	
FILTER			
FL701	1-235-612-21	BPF 15KHz	
FL702	1-235-611-21	BPF 45KHz	
IC			
IC001	8-752-808-24	IC CXF5048H-183Q	
IC002	8-752-808-25	IC CXF5048H-182Q	
IC003	8-759-144-21	IC UPD75106G-573-1B	
IC004	8-759-201-01	IC TC4066BF	
IC005	8-759-201-61	IC TC40H04F	
IC201	8-759-903-47	IC LA5005H	
IC202	8-759-100-94	IC UPC35862	
IC204	8-759-971-25	IC M8674169U	
IC205	8-759-932-07	IC M8674101PF	
IC206	8-759-010-45	IC MC140708F-T1	
IC206	8-759-200-78	IC TC4030BF	
IC210	8-752-003-50	IC CX2903S	
IC211	8-759-925-66	IC BA6303F	
IC212	8-759-701-36	IC NJM3403AM	
IC213	8-759-201-01	IC TC4066BF	
IC213	8-759-303-62	IC HD140668FP-T1	
IC214	8-759-201-00	IC TC4052BF	
IC215	8-759-100-94	IC UPC35862	
IC216	8-759-200-81	IC TC4053BF	
IC217	8-759-200-81	IC TC4053BF	
IC216	8-759-200-81	IC TC4053BF	
IC218	8-759-303-56	IC HD140538FP-T1	
IC219	8-759-100-94	IC UPC35862	
IC220	8-759-200-90	IC TC4538BF	
IC401	8-759-200-90	IC TC4538BF	
IC402	8-759-200-68	IC TC4011BF	
IC501	8-759-321-31	IC HD6380520-A82F	
IC502	8-759-937-56	IC S-8054ALB-LM-S	
IC701	8-759-928-55	IC CXA1042M	
IC703	8-759-100-95	IC UPC32462	
COIL			
L501	1-408-978-21	INDUCTOR	47UH

Ref.No	Part No.	Description	Remark
L502	1-408-978-21	INDUCTOR	47UH
L503	1-408-978-21	INDUCTOR	47UH
L504	1-408-978-21	INDUCTOR	47UH
TRANSISTOR			
Q054	8-729-901-01	TRANSISTOR DTC144EX	
Q090	8-729-901-01	TRANSISTOR DTC144EX	
Q091	8-729-901-01	TRANSISTOR DTC144EX	
Q205	8-729-600-90	TRANSISTOR 2SC1623	
Q227	8-729-901-06	TRANSISTOR DTA144EX	
Q229	8-729-901-06	TRANSISTOR DTA144EX	
Q230	8-729-901-01	TRANSISTOR DTC144EX	
Q231	8-729-903-29	TRANSISTOR DTA144TX	
Q233	8-729-901-01	TRANSISTOR DTC144EX	
Q235	8-729-901-01	TRANSISTOR DTC144EX	
Q238	8-729-901-01	TRANSISTOR DTC144EX	
Q240	8-729-901-01	TRANSISTOR DTC144EX	
Q242	8-729-901-01	TRANSISTOR DTC144EX	
Q243	8-729-901-01	TRANSISTOR DTC144EX	
Q244	8-729-901-01	TRANSISTOR DTC144EX	
Q245	8-729-901-06	TRANSISTOR DTA144EX	
Q249	8-729-901-06	TRANSISTOR DTA144EX	
Q250	8-729-100-67	TRANSISTOR 2SC1623-L7	
Q251	8-729-100-67	TRANSISTOR 2SC1623-L7	
Q252	8-729-100-76	TRANSISTOR 2SA812	
Q253	8-729-100-76	TRANSISTOR 2SA812	
Q254	8-729-901-01	TRANSISTOR DTC144EX	
Q256	8-729-901-01	TRANSISTOR DTC144EX	
Q257	8-729-901-06	TRANSISTOR DTA144EX	
Q258	8-729-901-06	TRANSISTOR DTA144EX	
Q281	8-729-901-01	TRANSISTOR DTC144EX	
Q332	8-729-901-06	TRANSISTOR DTA144EX	
Q451	8-729-901-01	TRANSISTOR DTC144EX	
Q452	8-729-901-06	TRANSISTOR DTA144EX	
Q453	8-729-901-06	TRANSISTOR DTA144EX	
Q454	8-729-901-06	TRANSISTOR DTA144EX	
Q455	8-729-901-06	TRANSISTOR DTA144EX	
Q461	8-729-901-01	TRANSISTOR DTC144EX	
Q462	8-729-901-01	TRANSISTOR DTC144EX	
Q463	8-729-901-01	TRANSISTOR DTC144EX	
Q470	8-729-100-76	TRANSISTOR 2SA812	
Q471	8-729-901-01	TRANSISTOR DTC144EX	
Q485	8-729-901-06	TRANSISTOR DTA144EX	
Q501	8-729-901-01	TRANSISTOR DTC144EX	
Q611	8-729-903-30	TRANSISTOR DTC144T	
Q614	8-729-100-66	TRANSISTOR 2SC1623	
Q620	8-729-901-01	TRANSISTOR DTA144EX	
Q621	8-729-901-01	TRANSISTOR DTA144EX	
Q702	8-729-100-67	TRANSISTOR 2SC1623-L7	
Q704	8-729-100-76	TRANSISTOR 2SA812	
Q705	8-729-100-67	TRANSISTOR 2SC1623-L7	
Q706	8-729-100-67	TRANSISTOR 2SC1623-L7	
Q707	8-729-100-67	TRANSISTOR 2SC1623-L7	
Q708	8-729-100-67	TRANSISTOR 2SC1623-L7	

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
Q709	8-729-100-76	TRANSISTOR 25A812		R205	1-216-049-00	METAL GLAZE 1K 5%	1/10W
Q710	8-729-100-67	TRANSISTOR 25C1623-L7		R209	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
Q717	8-729-901-04	TRANSISTOR DTA114EK		R210	1-216-073-00	METAL GLAZE 10K 5%	1/10W
RESISTOR				R211	1-216-295-00	METAL GLAZE 0 5%	1/10W
R001	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R212	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R003	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R215	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R004	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R216	1-216-665-11	METAL CHIP 3.9K 0.50%	1/10W
R005	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R217	1-216-665-11	METAL CHIP 3.9K 0.50%	1/10W
R007	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R224	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R008	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R225	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R009	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R226	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R010	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R227	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R011	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R236	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R012	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R238	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W
R013	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R239	1-216-675-11	METAL CHIP 10K 0.50%	1/10W
R014	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	R240	1-216-685-11	METAL CHIP 27K 0.50%	1/10W
R015	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R241	1-216-671-11	METAL CHIP 6.8K 0.50%	1/10W
R016	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R242	1-216-685-11	METAL CHIP 27K 0.50%	1/10W
R018	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R243	1-216-669-11	METAL CHIP 5.6K 0.50%	1/10W
R020	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R244	1-216-683-11	METAL CHIP 22K 0.50%	1/10W
R021	1-216-295-00	METAL GLAZE 0 5%	1/10W	R245	1-216-121-00	METAL GLAZE 1M 5%	1/10W
R022	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R246	1-216-683-11	METAL CHIP 22K 0.50%	1/10W
R023	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R247	1-216-080-00	METAL GLAZE 20K 5%	1/10W
R026	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R248	1-216-080-00	METAL GLAZE 20K 5%	1/10W
R027	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R249	1-216-080-00	METAL GLAZE 20K 5%	1/10W
R028	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R250	1-216-080-00	METAL GLAZE 20K 5%	1/10W
R030	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R251	1-216-080-00	METAL GLAZE 20K 5%	1/10W
R031	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R252	1-216-080-00	METAL GLAZE 20K 5%	1/10W
R032	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R253	1-216-080-00	METAL GLAZE 20K 5%	1/10W
R033	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R254	1-216-080-00	METAL GLAZE 20K 5%	1/10W
R034	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R255	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R039	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R256	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R040	1-216-295-00	METAL GLAZE 0 5%	1/10W	R257	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R050	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R258	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R059	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R259	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R061	1-216-035-00	METAL GLAZE 270 5%	1/10W	R260	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R062	1-216-035-00	METAL GLAZE 270 5%	1/10W	R261	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R090	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W	R262	1-216-080-00	METAL GLAZE 20K 5%	1/10W
R099	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R269	1-216-055-00	METAL GLAZE 1.8K 5%	1/10W
R151	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R289	1-216-295-00	METAL GLAZE 0 5%	1/10W
R152	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R290	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R153	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R291	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R154	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R292	1-216-295-00	METAL GLAZE 0 5%	1/10W
R155	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R294	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R156	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R295	1-216-105-00	METAL GLAZE 180K 5%	1/10W
R157	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R296	1-216-121-00	METAL GLAZE 1M 5%	1/10W
R158	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R298	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R160	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R299	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R161	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R300	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R163	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R301	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R170	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	R303	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R171	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R305	1-216-085-00	METAL GLAZE 33K 5%	1/10W
				R306	1-216-077-00	METAL GLAZE 15K 5%	1/10W

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Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R307	1-216-043-00	METAL GLAZE	560 5% 1/10W	R372	1-216-681-11	METAL CHIP	18K 0.50% 1/10W
R311	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R373	1-216-075-00	METAL GLAZE	12K 5% 1/10W
R312	1-216-115-00	METAL GLAZE	560K 5% 1/10W	R375	1-216-697-11	METAL CHIP	82K 0.50% 1/10W
R313	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R376	1-216-107-00	METAL GLAZE	270K 5% 1/10W
R314	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R377	1-216-107-00	METAL GLAZE	270K 5% 1/10W
R315	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R380	1-216-115-00	METAL GLAZE	560K 5% 1/10W
R316	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R381	1-216-115-00	METAL GLAZE	560K 5% 1/10W
R317	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R382	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R318	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R383	1-216-683-11	METAL CHIP	22K 0.50% 1/10W
R319	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R384	1-216-667-11	METAL CHIP	4.7K 0.50% 1/10W
R320	1-216-685-11	METAL CHIP	27K 0.50% 1/10W	R385	1-216-683-11	METAL CHIP	22K 0.50% 1/10W
R322	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R386	1-216-667-11	METAL CHIP	4.7K 0.50% 1/10W
R324	1-216-099-00	METAL GLAZE	120K 5% 1/10W	R388	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R326	1-216-109-00	METAL GLAZE	330K 5% 1/10W	R394	1-216-035-00	METAL GLAZE	270 5% 1/10W
R327	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R396	1-216-699-11	METAL CHIP	100K 0.50% 1/10W
R328	1-216-091-00	METAL GLAZE	56K 5% 1/10W	R397	1-216-680-11	METAL CHIP	16K 0.50% 1/10W
R329	1-216-117-00	METAL GLAZE	680K 5% 1/10W	R398	1-216-111-00	METAL GLAZE	390K 5% 1/10W
R330	1-216-117-00	METAL GLAZE	680K 5% 1/10W	R399	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R331	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R402	1-216-295-00	METAL GLAZE	0 5% 1/10W
R332	1-216-115-00	METAL GLAZE	560K 5% 1/10W	R404	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R334	1-216-115-00	METAL GLAZE	560K 5% 1/10W	R405	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R335	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R406	1-216-295-00	METAL GLAZE	0 5% 1/10W
R336	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R408	1-216-115-00	METAL GLAZE	560K 5% 1/10W
R337	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R451	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R338	1-216-121-00	METAL GLAZE	1K 5% 1/10W	R452	1-216-115-00	METAL GLAZE	560K 5% 1/10W
R339	1-216-748-11	METAL GLAZE	39K 5% 1/10W	R453	1-216-669-11	METAL CHIP	39K 0.50% 1/10W
R340	1-216-667-11	METAL CHIP	4.7K 0.50% 1/10W	R454	1-216-673-11	METAL CHIP	8.2K 0.50% 1/10W
R341	1-216-663-11	METAL CHIP	3.3K 0.50% 1/10W	R456	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R345	1-216-105-00	METAL GLAZE	220K 5% 1/10W	R461	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R346	1-216-105-00	METAL GLAZE	220K 5% 1/10W	R462	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R347	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R463	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R348	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R464	1-216-093-00	METAL GLAZE	68K 5% 1/10W
R349	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R465	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R350	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R466	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R352	1-216-685-11	METAL CHIP	27K 0.50% 1/10W	R467	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R353	1-216-663-11	METAL CHIP	3.3K 0.50% 1/10W	R468	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R354	1-216-689-11	METAL CHIP	39K 0.50% 1/10W	R470	1-216-109-00	METAL GLAZE	330K 5% 1/10W
R355	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R471	1-216-109-00	METAL GLAZE	330K 5% 1/10W
R356	1-216-693-11	METAL CHIP	56K 0.50% 1/10W	R472	1-216-109-00	METAL GLAZE	330K 5% 1/10W
R357	1-216-691-11	METAL CHIP	47K 0.50% 1/10W	R473	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R358	1-216-663-11	METAL CHIP	3.3K 0.50% 1/10W	R474	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R359	1-216-686-11	METAL CHIP	27K 0.50% 1/10W	R475	1-216-103-00	METAL GLAZE	180K 5% 1/10W
R360	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R476	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R361	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R477	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R362	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R478	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R363	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R479	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R364	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R480	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R365	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R481	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R366	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R482	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R367	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R485	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R368	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R486	1-216-078-00	METAL GLAZE	16K 5% 1/10W
R370	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R501	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R371	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R502	1-216-073-00	METAL GLAZE	10K 5% 1/10W

When indicating parts by reference number, please include the board name.

ef.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R503	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R574	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R504	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R581	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R505	1-216-295-00	METAL GLAZE	0 5% 1/10W	R582	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R506	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R590	1-216-090-00	METAL GLAZE	51K 5% 1/10W
R507	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R591	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R508	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R611	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R509	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R612	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R510	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R614	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R511	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R615	1-216-079-00	METAL GLAZE	18K 5% 1/10W
R512	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R616	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R513	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	R617	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R514	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R618	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R515	1-216-674-11	METAL CHIP	9.1K 0.50% 1/10W	R619	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R516	1-216-687-11	METAL CHIP	33K 0.60% 1/10W	R620	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R517	1-216-674-11	METAL CHIP	9.1K 0.50% 1/10W	R621	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R518	1-216-687-11	METAL CHIP	33K 0.50% 1/10W	R623	1-216-295-00	METAL GLAZE	0 5% 1/10W
R519	1-216-687-11	METAL CHIP	33K 0.50% 1/10W	R630	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R520	1-216-687-11	METAL CHIP	33K 0.50% 1/10W	R631	1-216-295-00	METAL GLAZE	0 5% 1/10W
R522	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R632	1-216-637-11	METAL CHIP	270 0.50% 1/10W
R523	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R701	1-216-106-00	METAL GLAZE	220K 5% 1/10W
R524	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R702	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R525	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R703	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R526	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R704	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R527	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R705	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R528	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R706	1-216-117-00	METAL GLAZE	680K 5% 1/10W
R529	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R707	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R530	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R708	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R531	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R709	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R532	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R710	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R533	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R711	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R534	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R712	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R535	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R713	1-216-111-00	METAL GLAZE	390K 5% 1/10W
R538	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R715	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R551	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R716	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R552	1-216-295-00	METAL GLAZE	0 5% 1/10W	R717	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R553	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R718	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R555	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R719	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R557	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R722	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R558	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R723	1-216-079-00	METAL GLAZE	18K 5% 1/10W
R560	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R724	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R561	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R725	1-216-045-00	METAL GLAZE	680 5% 1/10W
R562	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R726	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R563	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R727	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R564	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R728	1-216-033-00	METAL GLAZE	220 5% 1/10W
R565	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R729	1-216-035-00	METAL GLAZE	270 5% 1/10W
R566	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R730	1-216-041-00	METAL GLAZE	470 5% 1/10W
R567	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R731	1-216-072-00	METAL GLAZE	9.1K 5% 1/10W
R568	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R732	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R569	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R733	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R570	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R734	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R571	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R735	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R572	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R736	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R573	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R737	1-216-049-00	METAL GLAZE	1K 5% 1/10W

When indicating parts by reference number, please include the board name.

SE-7P

IG-2

MB-9P

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R738	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	*A-7061-505-A MB-9(P)BOARD, COMPLETE(Ref.No.5,000 ***** Series)			
R739	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W				
R740	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W				
R741	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W				
R742	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W				
R743	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W				
R744	1-216-079-00	METAL GLAZE 10K 5%	1/10W				
R745	1-216-088-00	METAL GLAZE 43K 5%	1/10W				
R762	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
<u>VARIABLE RESISTOR</u>				<u>CAPACITOR</u>			
RV201	1-237-576-21	RES. ADJ. METAL GLAZE 220K		C001	1-163-035-00	CERAMIC CHIP 0.047MF	50V
RV202	1-237-576-21	RES. ADJ. METAL GLAZE 220K		C002	1-163-035-00	CERAMIC CHIP 0.047MF	50V
RV203	1-230-869-11	RES. ADJ. METAL GLAZE 4.7K		C003	1-163-093-00	CERAMIC CHIP 10PF	5%
RV204	1-230-869-11	RES. ADJ. METAL GLAZE 4.7K		C004	1-163-093-00	CERAMIC CHIP 10PF	5%
RV205	1-230-871-11	RES. ADJ. METAL GLAZE 22K		C005	1-163-035-00	CERAMIC CHIP 0.047MF	50V
RV206	1-230-870-11	RES. ADJ. METAL GLAZE 10K		C006	1-163-141-00	CERAMIC CHIP 0.001MF	5%
RV207	1-230-871-11	RES. ADJ. METAL GLAZE 22K		C007	1-163-141-00	CERAMIC CHIP 0.001MF	5%
RV208	1-230-870-11	RES. ADJ. METAL GLAZE 10K		C008	1-124-234-00	ELECT 22MF	20%
RV210	1-230-869-11	RES. ADJ. METAL GLAZE 4.7K		C009	1-124-234-00	ELECT 22MF	20%
RV212	1-230-869-11	RES. ADJ. METAL GLAZE 4.7K		C010	1-163-035-00	CERAMIC CHIP 0.047MF	50V
RV215	1-230-868-11	RES. ADJ. METAL GLAZE 2.2K		C011	1-163-035-00	CERAMIC CHIP 0.047MF	50V
RV216	1-230-868-11	RES. ADJ. METAL GLAZE 2.2K		C012	1-163-035-00	CERAMIC CHIP 0.047MF	50V
RV217	1-237-433-21	RES. ADJ. METAL GLAZE 470		C013	1-163-035-00	CERAMIC CHIP 0.047MF	50V
RV218	1-237-433-21	RES. ADJ. METAL GLAZE 470		C014	1-124-234-00	ELECT 22MF	20%
RV401	1-230-873-11	RES. ADJ. METAL GLAZE 47K		C051	1-163-035-00	CERAMIC CHIP 0.047MF	50V
RV701	1-230-873-11	RES. ADJ. METAL GLAZE 47K		<u>CONNECTOR</u>			
<u>CRYSTAL</u>				CN001	1-566-943-11	CONNECTOR, BOARD TO BOARD 18P	
X001	1-567-346-11	OSCILLATOR, CERAMIC (5MHz)		CN002	1-566-944-11	CONNECTOR, BOARD TO BOARD 22P	
X002	1-567-121-00	VIBRATOR, CRYSTAL (4.19MHz)		CN003	*1-564-005-21	PIN, CONNECTOR 6P	
X001	1-567-827-11	VIBRATOR, CRYSTAL (5.85MHz)		CN004	1-506-477-11	PIN, CONNECTOR 6P	
X202	1-567-504-B1	OSCILLATOR, CRYSTAL (4.43MHz)		CN005	1-506-473-11	PIN, CONNECTOR 8P	
X501	1-567-132-00	VIBRATOR, CERAMIC (6MHz)		CN006	1-506-470-11	PIN, CONNECTOR 5P	
*****				<u>DIODE</u>			
*A-7070-623-A IG-2 BOARD, COMPLETE (Ref.No.3,100 ***** Series)				D002	8-719-100-03	DIODE 1S2B35	
				D003	8-719-100-03	DIODE 1S2B35	
				D051	8-719-101-23	DIODE 1S5123	
				D052	8-719-101-23	DIODE 1S5123	
				D053	8-719-101-23	DIODE 1S5123	
				D054	8-719-100-03	DIODE 1S2B35	
				<u>IC</u>			
				IC001	8-759-141-31	IC U075106G-574-1B	
				IC003	8-759-200-81	IC TC4053BF	
				IC004	8-759-603-27	IC MS201FP	
				IC005	8-759-603-27	IC MS201FP	
				<u>COIL</u>			
				L001	1-408-409-00	INDUCTOR 10UH	
				L002	1-408-409-00	INDUCTOR 10UH	
				L003	1-408-409-00	INDUCTOR 10UH	
				L004	1-408-429-00	INDUCTOR 470UH	
				L005	1-408-429-00	INDUCTOR 470UH	
				L051	1-410-393-11	INDUCTOR CHIP 100UH	
				<u>TRANSISTOR</u>			
				Q001	8-729-901-01	TRANSISTOR DTC144EK	

When indicating parts by reference number, please include the board name.

MB-9P

PA-11P

f.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
J002	8-729-901-01	TRANSISTOR DTC144EK		R065	1-216-034-00	METAL GLAZE 240 5%	1/10W
J003	8-729-901-01	TRANSISTOR DTC144EK		R066	1-216-089-00	METAL GLAZE 47K 5%	1/10W
J004	8-729-901-06	TRANSISTOR DTA144EK		R067	1-216-089-00	METAL GLAZE 47K 5%	1/10W
J005	8-729-901-06	TRANSISTOR DTA144EK		R068	1-216-089-00	METAL GLAZE 47K 5%	1/10W
J006	8-729-901-01	TRANSISTOR DTC144EK		R069	1-216-089-00	METAL GLAZE 47K 5%	1/10W
RESISTOR				R070	1-216-073-00	METAL GLAZE 10K 5%	1/10W
I001	1-216-079-00	METAL GLAZE 19K 5%	1/10W	SWITCH			
I002	1-216-081-00	METAL GLAZE 22K 5%	1/10W	S001	1-554-371-51	SWITCH, TACT (EJECT)	
I003	1-216-081-00	METAL GLAZE 22K 5%	1/10W	S002	1-554-371-51	SWITCH, TACT (PB)	
I004	1-216-081-00	METAL GLAZE 22K 5%	1/10W	S003	1-554-371-51	SWITCH, TACT (PAUSE)	
I005	1-216-081-00	METAL GLAZE 22K 5%	1/10W	S004	1-554-371-51	SWITCH, TACT (REW)	
I006	1-216-081-00	METAL GLAZE 22K 5%	1/10W	S005	1-554-371-51	SWITCH, TACT (- X1)	
I008	1-216-081-00	METAL GLAZE 22K 5%	1/10W	S006	1-554-371-51	SWITCH, TACT (STOP)	
I010	1-216-081-00	METAL GLAZE 22K 5%	1/10W	S007	1-554-371-51	SWITCH, TACT (REC)	
I011	1-216-081-00	METAL GLAZE 22K 5%	1/10W	S008	1-554-371-51	SWITCH, TACT (FF)	
I012	1-216-089-00	METAL GLAZE 47K 5%	1/10W	S009	1-554-371-51	SWITCH, TACT (POWER)	
I013	1-216-089-00	METAL GLAZE 47K 5%	1/10W	S010	1-554-371-51	SWITCH, TACT (- X17)	
I014	1-216-089-00	METAL GLAZE 47K 5%	1/10W	S011	1-554-371-51	SWITCH, TACT (- X3)	
I015	1-216-089-00	METAL GLAZE 47K 5%	1/10W	S012	1-554-371-51	SWITCH, TACT (- SLOW)	
I016	1-216-089-00	METAL GLAZE 47K 5%	1/10W	S013	1-554-371-51	SWITCH, TACT (+ SLOW)	
I017	1-216-093-00	METAL GLAZE 68K 5%	1/10W	S014	1-554-371-51	SWITCH, TACT (X2)	
R018	1-216-093-00	METAL GLAZE 68K 5%	1/10W	S015	1-554-371-51	SWITCH, TACT (X19)	
R019	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	FILTER			
R020	1-216-093-00	METAL GLAZE 68K 5%	1/10W	T001	1-235-900-11	FILTER, LOW PASS	
R021	1-216-093-00	METAL GLAZE 68K 5%	1/10W	T002	1-235-900-11	FILTER, LOW PASS	
R022	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	CRYSTAL			
R023	1-216-047-00	METAL GLAZE 820 5%	1/10W	X001	1-567-121-00	VIBRATOR, CRYSTAL (4.19MHz)	
R024	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W	*****			
R025	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	*A-7061-048-A PA-11 (P) BOARD, COMPLETE (Ref.No.5,500			
R026	1-216-047-00	METAL GLAZE 820 5%	1/10W	***** Series)			
R027	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W	CAPACITOR			
R028	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	C001	1-163-012-00	CERAMIC CHIP 0.0018MF	10% 50V
R029	1-216-089-00	METAL GLAZE 47K 5%	1/10W	C002	1-124-225-00	ELECT 100MF	20% 6.3V
R030	1-216-073-00	METAL GLAZE 10K 5%	1/10W	C003	1-126-154-11	ELECT 47MF	20% 6.3V
R031	1-216-069-00	METAL GLAZE 1K 5%	1/10W	C004	1-126-154-11	ELECT 47MF	20% 6.3V
R032	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	C005	1-130-490-11	MYLAR 0.039MF	5% 50V
R033	1-216-097-00	METAL GLAZE 100K 5%	1/10W	C006	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
R034	1-216-097-00	METAL GLAZE 100K 5%	1/10W	C007	1-130-479-00	MYLAR 0.0047MF	5% 50V
R051	1-216-072-00	METAL GLAZE 9.1K 5%	1/10W	C008	1-126-154-11	ELECT 47MF	20% 6.3V
R052	1-216-081-00	METAL GLAZE 22K 5%	1/10W	C009	1-163-088-00	CERAMIC CHIP 5PF	0.25PF 50V
R053	1-216-089-00	METAL GLAZE 47K 5%	1/10W	C010	1-126-154-11	ELECT 47MF	20% 6.3V
R054	1-216-099-00	METAL GLAZE 120K 5%	1/10W	C011	1-130-469-00	MYLAR 580PF	5% 50V
R055	1-216-081-00	METAL GLAZE 22K 5%	1/10W	C012	1-130-482-00	MYLAR 0.0082MF	5% 50V
R056	1-216-072-00	METAL GLAZE 9.1K 5%	1/10W	C013	1-135-099-85	TANTAL. CHIP 2.2MF	10% 6.3V
R057	1-216-081-00	METAL GLAZE 22K 5%	1/10W	C014	1-135-100-21	TANTAL. CHIP 6.8MF	20% 6.3V
R058	1-216-089-00	METAL GLAZE 47K 5%	1/10W	C015	1-135-072-21	TANTAL. CHIP 0.22MF	10% 35V
R059	1-216-099-00	METAL GLAZE 120K 5%	1/10W	C016	1-126-153-11	ELECT 22MF	20% 6.3V
R060	1-216-095-00	METAL GLAZE 82K 5%	1/10W				
R061	1-216-085-00	METAL GLAZE 33K 5%	1/10W				
R062	1-216-079-00	METAL GLAZE 19K 5%	1/10W				
R063	1-216-062-00	METAL GLAZE 3.6K 5%	1/10W				
R064	1-216-054-00	METAL GLAZE 1.6K 5%	1/10W				

When indicating parts by reference number, please include the board name.

PA-11P

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
C017	1-163-117-00	CERAMIC CHIP 100PF	5% 50V			<u>COIL</u>	
C018	1-126-153-11	ELECT 22MF	20% 6.3V				
C019	1-126-153-11	ELECT 22MF	20% 6.3V				
C031	1-124-225-00	ELECT 100MF	20% 6.3V	L001	1-408-793-21	INDUCTOR CHIP 220UH	
C032	1-124-225-00	ELECT 100MF	20% 6.3V			<u>TRANSISTOR</u>	
C033	1-163-035-00	CERAMIC CHIP 0.047MF	50V	Q001	8-729-202-38	TRANSISTOR 25C326N	
C034	1-126-154-11	ELECT 47MF	20% 6.3V	Q002	8-729-202-38	TRANSISTOR 25C326N	
C035	1-126-154-11	ELECT 47MF	20% 6.3V	Q031	8-729-901-05	TRANSISTOR DTA144EK	
C036	1-163-035-00	CERAMIC CHIP 0.047MF	50V	Q032	8-729-901-05	TRANSISTOR DTA144EK	
C037	1-126-154-11	ELECT 47MF	20% 6.3V	Q033	8-729-901-05	TRANSISTOR DTA144EK	
C038	1-135-100-21	TANTAL. CHIP 6.8MF	20% 6.3V	Q034	8-729-100-75	TRANSISTOR 25A812-M5	
C039	1-163-021-00	CERAMIC CHIP 0.01MF	50V	Q035	8-729-100-75	TRANSISTOR 25A812-M5	
C040	1-163-021-00	CERAMIC CHIP 0.01MF	50V	Q051	8-729-202-38	TRANSISTOR 25C326N	
C041	1-109-814-11	MICA 220PF	5% 100V	Q052	8-729-202-38	TRANSISTOR 25C326N	
C042	1-126-154-11	ELECT 47MF	20% 6.3V			<u>RESISTOR</u>	
C043	1-126-153-11	ELECT 22MF	20% 6.3V	R001	1-216-043-00	METAL GLAZE 560 5% 1/10W	
C044	1-126-154-11	ELECT 47MF	20% 6.3V	R002	1-216-078-00	METAL GLAZE 19K 5% 1/10W	
C051	1-163-012-00	CERAMIC CHIP 0.0018MF	10% 50V	R003	1-216-072-00	METAL GLAZE 9.1K 5% 1/10W	
C052	1-124-225-00	ELECT 100MF	20% 6.3V	R004	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
C053	1-126-154-11	ELECT 47MF	20% 6.3V	R005	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
C054	1-126-154-11	ELECT 47MF	20% 6.3V	R006	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
C055	1-130-490-11	MYLAR 0.039MF	5% 50V	R007	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
C056	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	R008	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
C057	1-130-479-00	MYLAR 0.0047MF	5% 50V	R009	1-216-045-00	METAL GLAZE 680 5% 1/10W	
C058	1-126-154-11	ELECT 47MF	20% 6.3V	R010	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
C059	1-163-088-00	CERAMIC CHIP 5PF	0.25PF 50V	R012	1-215-447-00	METAL 12K 1% 1/6W	
C060	1-126-154-11	ELECT 47MF	20% 6.3V	R013	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
C061	1-130-469-00	MYLAR 680PF	5% 50V	R014	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
C062	1-130-482-00	MYLAR 0.0082MF	5% 50V	R015	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
C063	1-135-099-85	TANTAL. CHIP 2.2MF	10% 6.3V	R016	1-216-060-00	METAL GLAZE 3K 5% 1/10W	
C064	1-135-100-21	TANTAL. CHIP 6.8MF	20% 6.3V	R017	1-216-058-00	METAL GLAZE 2.4K 5% 1/10W	
C065	1-135-072-21	TANTAL. CHIP 0.22MF	10% 35V	R018	1-216-748-11	METAL GLAZE 39K 5% 1/10W	
C066	1-126-153-11	ELECT 22MF	20% 6.3V	R019	1-216-077-00	METAL GLAZE 19K 5% 1/10W	
C067	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	R020	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
C068	1-126-153-11	ELECT 22MF	20% 6.3V	R021	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
C069	1-126-153-11	ELECT 22MF	20% 6.3V	R022	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
		<u>CONNECTOR</u>		R023	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
CND01	1-563-314-11	CONNECTOR, BOARD TO BOARD 20P		R024	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W	
		<u>DIODE</u>		R031	1-216-117-00	METAL GLAZE 680K 5% 1/10W	
D031	8-719-100-03	DIODE 152835		R032	1-215-485-00	METAL 470K 1% 1/6W	
D032	8-719-100-03	DIODE 152835		R033	1-216-022-00	METAL GLAZE 75 5% 1/10W	
		<u>IC</u>		R034	1-216-035-00	METAL GLAZE 390 5% 1/10W	
IC001	8-752-009-90	IC CX20099		R035	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
IC002	8-759-700-43	IC NJM4558M		R036	1-215-423-00	METAL 1.2K 1% 1/6W	
IC003	8-759-700-43	IC NJM4558M		R037	1-215-431-00	METAL 2.7K 1% 1/6W	
IC004	8-752-301-00	IC CL23010		R039	1-215-401-11	METAL 150 1% 1/6W	
IC005	8-759-914-44	IC TL431QLPB		R040	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
				R041	1-216-295-00	METAL GLAZE 0 5% 1/10W	
				R042	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
				R043	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
				R051	1-216-043-00	METAL GLAZE 560 5% 1/10W	
				R052	1-216-078-00	METAL GLAZE 16K 5% 1/10W	

When indicating parts by reference number, please include the board name.

if.No	Part No.	Description	Remark
1053	1-216-072-00	METAL GLAZE 9.1K 5%	1/10W
1054	1-216-089-00	METAL GLAZE 47K 5%	1/10W
1055	1-216-073-00	METAL GLAZE 10K 5%	1/10W
1056	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
1057	1-216-073-00	METAL GLAZE 10K 5%	1/10W
1058	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W
1059	1-216-045-00	METAL GLAZE 680 5%	1/10W
1060	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
1062	1-215-447-00	METAL 12K 1%	1/6W
1063	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
1064	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
1065	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W
1066	1-216-060-00	METAL GLAZE 3K 5%	1/10W
1067	1-216-058-00	METAL GLAZE 2.4K 5%	1/10W
1068	1-216-748-11	METAL GLAZE 39K 5%	1/10W
1069	1-216-077-00	METAL GLAZE 15K 5%	1/10W
1070	1-216-089-00	METAL GLAZE 47K 5%	1/10W
1071	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
1072	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
1073	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W
1074	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W

VARIABLE RESISTOR

RV001	1-230-524-11	RES, ADJ, METAL GLAZE 22K
RV002	1-230-521-11	RES, ADJ, METAL GLAZE 2.2K
RV031	1-230-521-11	RES, ADJ, METAL GLAZE 2.2K
RV032	1-230-529-11	RES, ADJ, METAL GLAZE 470K
RV051	1-230-524-11	RES, ADJ, METAL GLAZE 22K
RV052	1-230-521-11	RES, ADJ, METAL GLAZE 2.2K

*A-7061-506-A PD-16 (P) BOARD, COMPLETE (Ref.No.5,000 Series)

CAPACITOR

CB51	1-163-035-00	CERAMIC CHIP 0.047MF	50V
CB52	1-163-035-00	CERAMIC CHIP 0.047MF	50V
CB53	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
CB54	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
CB56	1-135-100-21	TANTAL. CHIP 6.8MF	20% 6.3V
CB57	1-163-035-00	CERAMIC CHIP 0.047MF	50V
CB58	1-135-145-11	TANTAL. CHIP 0.47MF	20% 25V
CB59	1-135-103-00	TANTAL. CHIP 3.3MF	20% 4V
CB60	1-135-100-21	TANTAL. CHIP 6.8MF	20% 6.3V
CB61	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
CB62	1-163-085-00	CERAMIC CHIP 2PF	0.25PF 50V
CB63	1-163-035-00	CERAMIC CHIP 0.047MF	50V
CB64	1-163-035-00	CERAMIC CHIP 0.047MF	50V
CB67	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
CB68	1-163-099-00	CERAMIC CHIP 18PF	5% 50V
CB69	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
CB70	1-163-109-00	CERAMIC CHIP 47PF	5% 50V

Ref.No	Part No.	Description	Remark
CB71	1-163-035-00	CERAMIC CHIP 0.047MF	50V
CB72	1-135-100-21	TANTAL. CHIP 6.8MF	20% 6.3V
CB73	1-135-100-21	TANTAL. CHIP 6.8MF	20% 6.3V
CB74	1-163-035-00	CERAMIC CHIP 0.047MF	50V
CB75	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
CB76	1-163-133-00	CERAMIC CHIP 470PF	10% 50V
CB77	1-163-035-00	CERAMIC CHIP 0.047MF	50V
CB78	1-135-100-21	TANTAL. CHIP 6.8MF	20% 6.3V
CB79	1-163-035-00	CERAMIC CHIP 0.047MF	50V
CB80	1-135-100-21	TANTAL. CHIP 6.8MF	20% 6.3V
CB81	1-163-035-00	CERAMIC CHIP 0.047MF	50V
CB82	1-163-035-00	CERAMIC CHIP 0.047MF	50V
CB83	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
CB84	1-163-035-00	CERAMIC CHIP 0.047MF	50V
CB85	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
CB86	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
CB87	1-163-035-00	CERAMIC CHIP 0.047MF	50V
CB88	1-163-035-00	CERAMIC CHIP 0.047MF	50V
CB89	1-135-150-21	TANTAL. CHIP 3.3MF	10% 6.3V

CONNECTOR

CN851	1-565-107-11	CONNECTOR, ON BOARD (2MM) 3SP
CN852	1-565-107-11	CONNECTOR, ON BOARD (2MM) 3SP
CN853	1-506-777-11	CONNECTOR, BOARD TO BOARD 20P

DIODE

DB51	8-719-100-03	DIODE 1S2B35
DB52	8-719-104-26	DIODE 1S2B37-T1
DB53	8-719-100-05	DIODE 1S2B37

IC

IC851	8-752-324-45	IC CXD10660-Z
IC852	8-759-929-17	IC CXD1051M
IC853	8-752-010-30	IC CX20103
IC854	8-752-010-20	IC CX20102
IC855	8-752-323-58	IC CXK5664H-12L
IC856	8-759-911-18	IC CX23011
IC857	8-759-911-19	IC CX23012
IC858	8-759-972-12	IC CF77305FT
IC859	8-752-808-18	IC CXPS024H-072Q
IC860	8-759-972-13	IC CF77309FR

COIL

L851	1-410-393-11	INDUCTOR CHIP 100UH
L852	1-410-393-11	INDUCTOR CHIP 100UH
L853	1-410-393-11	INDUCTOR CHIP 100UH
L855	1-410-393-11	INDUCTOR CHIP 100UH
L856	1-410-393-11	INDUCTOR CHIP 100UH
L857	1-410-393-11	INDUCTOR CHIP 100UH
L858	1-410-393-11	INDUCTOR CHIP 100UH
L859	1-410-393-11	INDUCTOR CHIP 100UH
L860	1-410-393-11	INDUCTOR CHIP 100UH
L861	1-410-393-11	INDUCTOR CHIP 100UH

When indicating parts by reference number, please include the board name.

PD-16P

DM-24

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
L862	1-410-393-11	INDUCTOR CHIP 100UH		*A-7061-508-A	DM-24 BOARD, COMPLETE (Ref. No. 6,000 Series)		
<u>TRANSISTOR</u>				1-559-764-11	WIRE, FLAT TYPE 30P		
Q851	8-729-102-06	TRANSISTOR 2SC2223		*3-704-198-61	SUPPORT, PC		
Q852	8-729-122-63	TRANSISTOR 2SA1226		<u>CAPACITOR</u>			
Q853	8-729-102-06	TRANSISTOR 2SC2223		C001	1-124-224-11	ELECT 47MF	20% 6.3V
<u>RESISTOR</u>				C002	1-126-157-11	ELECT 10MF	20% 10V
R851	1-216-073-00	METAL GLAZE 10K 5% 1/10W		C003	1-126-157-11	ELECT 10MF	20% 10V
R852	1-216-085-00	METAL GLAZE 33K 5% 1/10W		C004	1-124-589-11	ELECT 47MF	20% 10V
R853	1-216-033-00	METAL GLAZE 220 5% 1/10W		C005	1-126-157-11	ELECT 10MF	20% 10V
R854	1-216-061-00	METAL GLAZE 5.3K 5% 1/10W		C006	1-126-157-11	ELECT 10MF	20% 10V
R855	1-216-081-00	METAL GLAZE 22K 5% 1/10W		C007	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R856	1-216-079-00	METAL GLAZE 18K 5% 1/10W		C008	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R857	1-216-077-00	METAL GLAZE 15K 5% 1/10W		C009	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
R858	1-216-077-00	METAL GLAZE 15K 5% 1/10W		C010	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R859	1-216-049-00	METAL GLAZE 1K 5% 1/10W		C011	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R860	1-216-074-00	METAL GLAZE 51K 5% 1/10W		C012	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R861	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W		C013	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R862	1-216-025-00	METAL GLAZE 100 5% 1/10W		C014	1-124-589-11	ELECT 47MF	20% 10V
R863	1-216-041-00	METAL GLAZE 470 5% 1/10W		C015	1-126-160-11	ELECT 1MF	20% 50V
R864	1-216-049-00	METAL GLAZE 1K 5% 1/10W		C016	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R866	1-216-041-00	METAL GLAZE 470 5% 1/10W		C017	1-126-160-11	ELECT 1MF	20% 50V
R867	1-216-041-00	METAL GLAZE 470 5% 1/10W		C018	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R868	1-216-295-00	METAL GLAZE 0 5% 1/10W		C019	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R869	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W		C020	1-163-135-00	CERAMIC CHIP 560PF	5% 50V
R870	1-216-049-00	METAL GLAZE 1K 5% 1/10W		C021	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
R871	1-216-049-00	METAL GLAZE 1K 5% 1/10W		C022	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
R872	1-216-049-00	METAL GLAZE 1K 5% 1/10W		C023	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
R873	1-216-047-00	METAL GLAZE 820 5% 1/10W		C024	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R874	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W		C025	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
R875	1-216-041-00	METAL GLAZE 470 5% 1/10W		C026	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
R876	1-216-045-00	METAL GLAZE 680 5% 1/10W		C027	1-126-160-11	ELECT 1MF	20% 50V
R879	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W		C028	1-124-589-11	ELECT 47MF	20% 10V
R880	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W		C029	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
R881	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W		C030	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
R882	1-216-043-00	METAL GLAZE 560 5% 1/10W		C031	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
R883	1-216-073-00	METAL GLAZE 10K 5% 1/10W		C032	1-163-081-00	CERAMIC CHIP 0.22MF	20% 50V
R884	1-216-073-00	METAL GLAZE 10K 5% 1/10W		C033	1-126-160-11	ELECT 1MF	20% 50V
R885	1-216-295-00	METAL GLAZE 0 5% 1/10W		C034	1-163-119-00	CERAMIC CHIP 120PF	5% 50V
R886	1-216-073-00	METAL GLAZE 10K 5% 1/10W		C035	1-163-115-00	CERAMIC CHIP 82PF	5% 50V
R887	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W		C036	1-163-127-00	CERAMIC CHIP 270PF	5% 50V
R888	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W		C037	1-163-115-00	CERAMIC CHIP 82PF	5% 50V
R889	1-216-073-00	METAL GLAZE 10K 5% 1/10W		C038	1-163-115-00	CERAMIC CHIP 82PF	5% 50V
<u>VARIABLE RESISTOR</u>				C039	1-163-127-00	CERAMIC CHIP 270PF	5% 50V
RV851	1-230-869-11	RES, ADJ, METAL GLAZE 4.7K		C040	1-163-115-00	CERAMIC CHIP 82PF	5% 50V
RV854	1-230-868-11	RES, ADJ, METAL GLAZE 2.2K		C041	1-163-038-00	CERAMIC CHIP 0.1MF	25% 25V
<u>CRYSTAL</u>				C042	1-126-157-11	ELECT 10MF	20% 10V
XB51	1-567-669-91	VIBRATOR, LITHIUM TANTALATE		C043	1-163-038-00	CERAMIC CHIP 0.1MF	25% 25V
XB52	1-567-964-21	OSCILLATOR, CHIP CERAMIC (5MHz)		C044	1-163-038-00	CERAMIC CHIP 0.1MF	25% 25V
				C045	1-163-038-00	CERAMIC CHIP 0.1MF	25% 25V
				C046	1-126-157-11	ELECT 10MF	20% 10V

When indicating parts by reference number, please include the board name.

f.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
047	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C101	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
048	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V	C102	1-126-160-11	ELECT 1MF	20% 50V
049	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	C103	1-124-589-11	ELECT 47MF	20% 10V
050	1-163-115-00	CERAMIC CHIP 82PF	5% 50V	C104	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
051	1-163-115-00	CERAMIC CHIP 82PF	5% 50V	C105	1-126-160-11	ELECT 1MF	20% 50V
052	1-163-115-00	CERAMIC CHIP 82PF	5% 50V	C106	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
053	1-163-115-00	CERAMIC CHIP 82PF	5% 50V	C107	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
054	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C108	1-163-135-00	CERAMIC CHIP 560PF	5% 50V
055	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C109	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
056	1-126-157-11	ELECT 10MF	20% 10V	C110	1-163-036-00	CERAMIC CHIP 0.068MF	50V
057	1-126-157-11	ELECT 10MF	20% 10V	C111	1-126-160-11	ELECT 1MF	20% 50V
058	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C112	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
059	1-124-589-11	ELECT 47MF	20% 10V	C113	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
060	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C114	1-126-157-11	ELECT 10MF	20% 10V
061	1-126-157-11	ELECT 10MF	20% 10V	C115	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
062	1-126-157-11	ELECT 10MF	20% 10V	C116	1-126-157-11	ELECT 10MF	20% 10V
063	1-163-121-00	CERAMIC CHIP 150PF	5% 50V	C117	1-126-157-11	ELECT 10MF	20% 10V
064	1-126-157-11	ELECT 10MF	20% 10V	C118	1-124-465-00	ELECT 0.47MF	20% 50V
065	1-163-108-00	CERAMIC CHIP 43PF	5% 50V	C119	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
066	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	C120	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
068	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C121	1-126-157-11	ELECT 10MF	20% 10V
069	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C122	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
070	1-126-157-11	ELECT 10MF	20% 10V	C123	1-163-036-00	CERAMIC CHIP 0.068MF	50V
071	1-163-081-00	CERAMIC CHIP 0.22MF	25V	C124	1-126-160-11	ELECT 1MF	20% 50V
072	1-126-157-11	ELECT 10MF	20% 10V	C125	1-126-160-11	ELECT 1MF	20% 50V
073	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	C126	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
074	1-163-121-00	CERAMIC CHIP 150PF	5% 50V	C127	1-163-241-11	CERAMIC CHIP 39PF	5% 50V
075	1-163-091-00	CERAMIC CHIP 8PF	0.25PF 50V	C128	1-163-241-11	CERAMIC CHIP 39PF	5% 50V
076	1-163-099-00	CERAMIC CHIP 18PF	5% 50V	C129	1-124-589-11	ELECT 47MF	20% 10V
077	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	C130	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
078	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	C131	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
079	1-126-160-11	ELECT 1MF	20% 50V	C132	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
080	1-124-589-11	ELECT 47MF	20% 10V	C133	1-163-097-00	CERAMIC CHIP 15PF	5% 50V
081	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	C134	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
082	1-124-589-11	ELECT 47MF	20% 10V	C135	1-163-241-11	CERAMIC CHIP 39PF	5% 50V
083	1-126-157-11	ELECT 10MF	20% 10V	C136	1-163-241-11	CERAMIC CHIP 39PF	5% 50V
084	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C138	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
085	1-163-081-00	CERAMIC CHIP 0.22MF	25V	C139	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
086	1-126-157-11	ELECT 10MF	20% 10V	C140	1-124-589-11	ELECT 47MF	20% 10V
087	1-124-589-11	ELECT 47MF	20% 10V	C141	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
088	1-163-135-00	CERAMIC CHIP 560PF	5% 50V	C142	1-163-097-00	CERAMIC CHIP 15PF	5% 50V
089	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	C143	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
090	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	C144	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
091	1-124-442-00	ELECT 330MF	20% 6.3V	C145	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
092	1-163-137-00	CERAMIC CHIP 680PF	5% 50V	C146	1-124-589-11	ELECT 47MF	20% 10V
093	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	C147	1-163-241-11	CERAMIC CHIP 39PF	5% 50V
094	1-126-160-11	ELECT 1MF	20% 50V	C148	1-163-241-11	CERAMIC CHIP 39PF	5% 50V
095	1-124-463-00	ELECT 0.1MF	20% 50V	C149	1-126-157-11	ELECT 10MF	20% 10V
096	1-124-463-00	ELECT 0.1MF	20% 50V	C150	1-126-157-11	ELECT 10MF	20% 10V
097	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	C151	1-124-589-11	ELECT 47MF	20% 10V
098	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	C152	1-124-589-11	ELECT 47MF	20% 10V
099	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	C153	1-124-589-11	ELECT 47MF	20% 10V
C100	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	C154	1-124-589-11	ELECT 47MF	20% 10V

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Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
C155	1-130-487-00	MYLAR	0.022MF 5% 50V	C209	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C156	1-130-487-00	MYLAR	0.022MF 5% 50V	C210	1-124-589-11	ELECT 47MF	20% 10V
C157	1-126-157-11	ELECT	10MF 20% 10V	C211	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
C158	1-126-157-11	ELECT	10MF 20% 10V	C212	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C159	1-126-157-11	ELECT	10MF 20% 10V	C213	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C160	1-126-157-11	ELECT	10MF 20% 10V	C214	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C161	1-124-589-11	ELECT	47MF 20% 10V	C215	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C162	1-124-589-11	ELECT	47MF 20% 10V	C216	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C163	1-124-589-11	ELECT	47MF 20% 10V	C217	1-163-099-00	CERAMIC CHIP 18PF	5% 50V
C164	1-124-589-11	ELECT	47MF 20% 10V	C218	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
C165	1-124-472-11	ELECT	470MF 20% 10V	C219	1-124-589-11	ELECT 47MF	20% 16V
C166	1-124-472-11	ELECT	470MF 20% 10V	C220	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
C167	1-124-472-11	ELECT	470MF 20% 10V	C221	1-124-589-11	ELECT 47MF	20% 10V
C168	1-124-472-11	ELECT	470MF 20% 10V	C222	1-126-157-11	ELECT 10MF	20% 10V
C169	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	C223	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
C170	1-126-160-11	ELECT	1MF 20% 50V	C224	1-124-589-11	ELECT 47MF	20% 10V
C171	1-163-036-00	CERAMIC CHIP 0.068MF	50V	C225	1-126-157-11	ELECT 10MF	20% 10V
C172	1-126-160-11	ELECT	1MF 20% 50V	C226	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
C173	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C227	1-124-589-11	ELECT 47MF	20% 10V
C174	1-124-455-00	ELECT	0.47MF 20% 50V	C228	1-126-157-11	ELECT 10MF	20% 10V
C175	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V	C229	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C176	1-126-157-11	ELECT	10MF 20% 10V	C230	1-126-157-11	ELECT 10MF	20% 10V
C177	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	C231	1-126-157-11	ELECT 10MF	20% 10V
C178	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C244	1-124-589-11	ELECT 47MF	20% 10V
C179	1-126-157-11	ELECT	10MF 20% 10V	C245	1-126-160-11	ELECT 1MF	20% 50V
C180	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C246	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
C181	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	C247	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
C182	1-163-134-00	CERAMIC CHIP 510PF	5% 50V	C248	1-163-081-00	CERAMIC CHIP 0.22MF	25V
C183	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V	C249	1-126-160-11	ELECT 1MF	20% 50V
C184	1-163-134-00	CERAMIC CHIP 510PF	5% 50V	C250	1-163-119-00	CERAMIC CHIP 120PF	5% 50V
C185	1-126-157-11	ELECT	10MF 20% 16V	C251	1-124-465-00	ELECT 0.47MF	20% 50V
C186	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	C252	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C187	1-130-481-00	MYLAR	0.0068MF 5% 50V	C253	1-126-160-11	ELECT 1MF	20% 50V
C188	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	C254	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C189	1-130-479-00	MYLAR	0.0047MF 5% 50V	C257	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C190	1-126-157-11	ELECT	10MF 20% 10V	C259	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
C192	1-126-157-11	ELECT	10MF 20% 10V	C260	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
C193	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C261	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
C194	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	C262	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
C195	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	C263	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
C196	1-124-589-11	ELECT	47MF 20% 10V	C264	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
C197	1-124-584-00	ELECT	100MF 20% 10V	C265	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
C198	1-124-584-00	ELECT	100MF 20% 10V	C266	1-126-157-11	ELECT 10MF	20% 10V
C199	1-124-584-00	ELECT	100MF 20% 10V	C268	1-126-157-11	ELECT 10MF	20% 10V
C200	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C270	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V
C201	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C271	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C202	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C272	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
C203	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C273	1-163-115-00	CERAMIC CHIP 82PF	5% 50V
C204	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C274	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
C205	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C501	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C206	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C502	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C207	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C503	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C208	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C504	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V

When indicating parts by reference number, please include the board name.

Ref. No	Part No.	Description	Remark	Ref. No	Part No.	Description	Remark
C505	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C563	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C506	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C564	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C507	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C565	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C508	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C566	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C509	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C567	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C510	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C568	1-163-115-00	CERAMIC CHIP 82PF	5% 50V
C511	1-163-021-00	CERAMIC CHIP 0.01MF	50V	C569	1-163-115-00	CERAMIC CHIP 82PF	5% 50V
C512	1-163-021-00	CERAMIC CHIP 0.01MF	50V	C570	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C513	1-163-021-00	CERAMIC CHIP 0.01MF	50V	C571	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C514	1-163-021-00	CERAMIC CHIP 0.01MF	50V	C574	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C515	1-163-021-00	CERAMIC CHIP 0.01MF	50V	C575	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C516	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C517	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C518	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C519	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C520	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C521	1-126-157-11	ELECT 10MF	20% 10V				
C522	1-126-157-11	ELECT 10MF	20% 10V				
C523	1-126-094-11	ELECT 4.7MF	20% 16V				
C524	1-126-094-11	ELECT 4.7MF	20% 16V				
C526	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C527	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C528	1-126-094-11	ELECT 4.7MF	20% 16V				
C529	1-126-094-11	ELECT 4.7MF	20% 16V				
C530	1-126-442-11	DOUBLE LAYERS 0.022F	5.5V				
C531	1-126-094-11	ELECT 4.7MF	20% 16V				
C532	1-126-094-11	ELECT 4.7MF	20% 16V				
C533	1-126-094-11	ELECT 4.7MF	20% 16V				
C536	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V				
C537	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V				
C538	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C539	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C540	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C541	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C542	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C543	1-126-094-11	ELECT 4.7MF	20% 16V				
C544	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C547	1-124-584-00	ELECT 100MF	20% 10V				
C548	1-124-584-00	ELECT 100MF	20% 10V				
C549	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C550	1-163-038-00	CERAMIC CHIP 0.1MF	25V				
C551	1-163-038-00	CERAMIC CHIP 0.1MF	25V				
C552	1-163-038-00	CERAMIC CHIP 0.1MF	25V				
C553	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C554	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C555	1-126-160-11	ELECT 1MF	20% 50V				
C556	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C557	1-163-101-00	CERAMIC CHIP 22PF	5% 50V				
C558	1-126-157-11	ELECT 10MF	20% 10V				
C559	1-163-021-00	CERAMIC CHIP 0.01MF	50V				
C560	1-163-108-00	CERAMIC CHIP 4.3F	5% 50V				
C561	1-126-094-11	ELECT 4.7MF	20% 16V				
C562	1-126-094-11	ELECT 4.7MF	20% 16V				

CONNECTOR

CN001	*1-564-683-41	PIN, CONNECTOR 13P
CN002	*1-564-683-31	PIN, CONNECTOR 13P
CN003	*1-564-009-11	PIN, CONNECTOR 10P
CN004	*1-564-009-21	PIN, CONNECTOR 10P
CN005	1-506-495-11	PIN, CONNECTOR 6P
CN007	1-506-485-11	PIN, CONNECTOR 6P
CN008	1-506-483-21	PIN, CONNECTOR 4P
CN009	1-565-210-11	CONNECTOR, FPC (ZIF) 30P
CN018	1-564-022-11	PIN, CONNECTOR 12P
CN019	1-506-470-11	PIN, CONNECTOR 5P
CN501	*1-564-020-41	PIN, CONNECTOR 10P
CN502	*1-564-021-41	PIN, CONNECTOR 11P
CN503	*1-564-020-31	PIN, CONNECTOR 10P
CN504	*1-564-021-31	PIN, CONNECTOR 11P

TRIMMER

CV001	1-141-245-00	TRIMMER, CERAMIC
CV002	1-141-245-00	TRIMMER, CERAMIC
CV501	1-141-304-21	TRIMMER, CERAMIC

DIODE

D502	8-719-908-06	DIODE ERA81-005
D503	8-719-105-64	DIODE RD4.3M-B2

DELAY LINE

DL001	1-415-201-00	DELAY LINE
DL002	1-415-251-00	DELAY LINE
DL003	1-415-313-00	DELAY LINE (1H)

IC

IC001	8-759-011-64	IC MC74HC4052F
IC002	8-759-011-64	IC MC74HC4052F
IC003	8-759-011-64	IC MC74HC4052F
IC004	8-759-631-91	IC MS0552-122FP
IC005	8-759-630-81	IC MS0455-079FP
IC006	8-759-630-81	IC MS0455-079FP
IC007	8-759-106-81	IC UPD74HC123AG
IC008	8-759-710-07	IC NJM234M
IC009	8-759-710-62	IC NJM234M
IC010	8-759-204-96	IC TC74HC04F

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
IC011	8-759-710-63	IC NJM2229M		IC528	8-759-710-07	IC NJM2234M	
IC012	8-759-011-65	IC MC74HC0453F		C01L			
IC013	8-759-603-54	IC M51271FP		L001	1-408-948-00	INDUCTOR	220UH
IC014	8-759-710-63	IC NJM2229M		L002	1-408-948-00	INDUCTOR	220UH
IC015	8-759-603-56	IC M51272FP		L003	1-408-948-00	INDUCTOR	220UH
IC016	8-759-106-81	IC UP074HC123AG		L004	1-408-948-00	INDUCTOR	220UH
IC017	8-759-605-38	IC M51279SP		L005	1-408-984-21	INDUCTOR	150UH
IC018	8-759-701-96	IC NJM2217L		L006	1-408-984-21	INDUCTOR	150UH
IC019	8-759-011-65	IC MC74HC0453F		L007	1-408-978-21	INDUCTOR	47UH
IC020	8-759-007-69	IC MC74HC157F		L008	1-408-980-21	INDUCTOR	68UH
IC021	8-759-710-09	IC NJM2233AM		L009	1-408-981-21	INDUCTOR	82UH
IC022	8-759-710-07	IC NJM2234M		L010	1-408-978-21	INDUCTOR	47UH
IC023	8-759-710-63	IC NJM2229M		L011	1-408-970-21	INDUCTOR	10UH
IC024	8-759-011-64	IC MC74HC052F		L012	1-408-972-21	INDUCTOR	15UH
IC025	8-759-204-96	IC TC74HC04F		L013	1-408-972-21	INDUCTOR	75UH
IC026	8-759-710-07	IC NJM2234M		L014	1-408-972-21	INDUCTOR	15UH
IC027	8-759-011-64	IC MC74HC052F		L015	1-408-969-21	INDUCTOR	8.2UH
IC028	8-759-106-81	IC UP074HC123AG		L017	1-408-948-00	INDUCTOR	220UH
IC030	8-759-710-09	IC NJM2233AM		L501	1-407-169-XX	INDUCTOR	100UH
IC031	8-759-204-96	IC TC74HC04F		L502	1-407-169-XX	INDUCTOR	100UH
IC032	8-759-106-63	IC UP074HC02G		L503	1-407-169-XX	INDUCTOR	100UH
IC033	8-759-201-47	IC TA7357AP		L504	1-408-978-21	INDUCTOR	47UH
IC034	8-759-106-81	IC UP074HC123AG		L505	1-407-169-XX	INDUCTOR	100UH
IC035	8-759-710-07	IC NJM2234M		L506	1-407-169-XX	INDUCTOR	100UH
IC037	8-759-011-65	IC MC74HC0453F		L507	1-407-169-XX	INDUCTOR	100UH
IC038	8-759-106-81	IC UP074HC123AG		L508	1-408-979-21	INDUCTOR	56UH
IC501	8-759-320-29	IC HD63805ZD-A28P		L510	1-408-972-21	INDUCTOR	15UH
IC502	8-759-144-19	IC UP075108G-E34-1B		L511	1-408-972-21	INDUCTOR	15UH
IC503	8-759-144-20	IC UP075108G-E35-1B		L809	1-408-979-21	INDUCTOR	56UH
IC504	8-752-330-54	IC CXK5864BM-12L		IC LINK			
IC505	8-752-323-65	IC CXK38256-101M		P5003A	1-532-832-21	LINK, IC 0.2A	
IC506	8-752-323-65	IC CXK5816M-15L		TRANSISTOR			
IC507	8-759-107-01	IC UP074HC244G5		Q001	8-729-100-66	TRANSISTOR	2SC1623
IC508	8-759-107-12	IC UP074HC374G5		Q002	8-729-100-66	TRANSISTOR	2SC1623
IC509	8-759-106-85	IC UP074HC138G		Q003	8-729-100-66	TRANSISTOR	2SC1623
IC510	8-759-204-96	IC TC74HC04F		Q004	8-729-100-66	TRANSISTOR	2SC1623
IC511	8-759-204-94	IC TC74HC00F		Q005	8-729-100-66	TRANSISTOR	2SC1623
IC512	8-759-106-74	IC UP074HC32G		Q006	8-729-320-17	TRANSISTOR	2SA1122CD
IC513	8-759-106-82	IC UP074HC125G		Q007	8-729-320-17	TRANSISTOR	2SA1122CD
IC514	8-759-106-74	IC UP074HC32G		Q008	8-729-100-66	TRANSISTOR	2SC1623
IC515	8-759-107-12	IC UP074HC374G5		Q009	8-729-100-66	TRANSISTOR	2SC1623
IC516	8-759-106-66	IC UP074HC08G		Q010	8-729-100-66	TRANSISTOR	2SC1623
IC517	8-759-106-74	IC UP074HC32G		Q011	8-729-100-66	TRANSISTOR	2SC1623
IC518	8-759-107-02	IC UP074HC244G5		Q012	8-729-320-17	TRANSISTOR	2SA1122CD
IC519	8-759-107-01	IC UP074HC244G5		Q013	8-729-320-17	TRANSISTOR	2SA1122CD
IC520	8-759-107-01	IC UP074HC244G5		Q014	8-729-320-17	TRANSISTOR	2SA1122CD
IC521	8-757-930-11	IC CX-7930A		Q015	8-729-100-66	TRANSISTOR	2SC1623
IC522	8-759-106-74	IC UP074HC32G		Q016	8-729-100-66	TRANSISTOR	2SC1623
IC523	8-759-011-64	IC MC74HC052F		Q017	8-729-100-66	TRANSISTOR	2SC1623
IC524	8-759-937-56	IC S-8054ALB-LM-S					
IC525	8-759-106-82	IC UP074HC125G					
IC526	8-759-906-24	IC SN74ALS24M					
IC527	8-759-205-06	IC TC74HC74F					

Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Q018	8-729-100-66	TRANSISTOR 2SC1623		Q073	8-729-117-54	TRANSISTOR 2SA1175	
Q019	8-729-320-17	TRANSISTOR 2SA1122CD		Q074	8-729-117-54	TRANSISTOR 2SA1175	
Q020	8-729-100-66	TRANSISTOR 2SC1623		Q075	8-729-117-54	TRANSISTOR 2SA1175	
Q021	8-729-100-66	TRANSISTOR 2SC1623		Q076	8-729-320-17	TRANSISTOR 2SA1122CD	
Q022	8-729-100-66	TRANSISTOR 2SC1623		Q079	8-729-320-17	TRANSISTOR 2SA1122CD	
Q023	8-729-100-66	TRANSISTOR 2SC1623		Q144	8-729-901-01	TRANSISTOR DTC144EK	
Q024	8-729-100-66	TRANSISTOR 2SC1623		Q145	8-729-901-01	TRANSISTOR DTC144EK	
Q025	8-729-100-66	TRANSISTOR 2SC1623		Q501	8-729-100-66	TRANSISTOR 2SC1623	
Q026	8-729-100-66	TRANSISTOR 2SC1623		Q502	8-729-901-00	TRANSISTOR DTC124EK	
Q027	8-729-100-66	TRANSISTOR 2SC1623		Q503	8-729-901-00	TRANSISTOR DTC124EK	
Q028	8-729-320-17	TRANSISTOR 2SA1122CD		Q504	8-729-901-00	TRANSISTOR DTC124EK	
Q029	8-729-100-66	TRANSISTOR 2SC1623		Q505	8-729-100-76	TRANSISTOR 2SA812	
Q030	8-729-100-66	TRANSISTOR 2SC1623		Q506	8-729-100-66	TRANSISTOR 2SC1623	
Q031	8-729-901-05	TRANSISTOR DTA124EK		Q507	8-729-901-01	TRANSISTOR DTC144EK	
Q032	8-729-100-66	TRANSISTOR 2SC1623		Q508	8-729-901-01	TRANSISTOR DTC144EK	
Q033	8-729-100-66	TRANSISTOR 2SC1623		Q509	8-729-901-01	TRANSISTOR DTC144EK	
Q034	8-729-100-66	TRANSISTOR 2SC1623		Q510	8-729-901-01	TRANSISTOR DTC144EK	
Q035	8-729-100-66	TRANSISTOR 2SC1623					
Q036	8-729-320-17	TRANSISTOR 2SA1122CD					
Q037	8-729-320-17	TRANSISTOR 2SA1122CD					
Q038	8-729-100-66	TRANSISTOR 2SC1623					
Q039	8-729-100-66	TRANSISTOR 2SC1623					
Q040	8-729-100-66	TRANSISTOR 2SC1623					
Q041	8-729-100-66	TRANSISTOR 2SC1623					
Q042	8-729-100-66	TRANSISTOR 2SC1623					
Q043	8-729-100-66	TRANSISTOR 2SC1623					
Q044	8-729-100-66	TRANSISTOR 2SC1623					
Q045	8-729-100-66	TRANSISTOR 2SC1623					
Q046	8-729-100-66	TRANSISTOR 2SC1623					
Q047	8-729-100-66	TRANSISTOR 2SC1623					
Q048	8-729-320-17	TRANSISTOR 2SA1122CD					
Q049	8-729-320-17	TRANSISTOR 2SA1122CD					
Q050	8-729-320-17	TRANSISTOR 2SA1122CD					
Q051	8-729-320-17	TRANSISTOR 2SA1122CD					
Q052	8-729-100-66	TRANSISTOR 2SC1623					
Q053	8-729-100-66	TRANSISTOR 2SC1623					
Q054	8-729-320-17	TRANSISTOR 2SA1122CD					
Q055	8-729-320-17	TRANSISTOR 2SA1122CD					
Q056	8-729-320-17	TRANSISTOR 2SA1122CD					
Q057	8-729-320-17	TRANSISTOR 2SA1122CD					
Q058	8-729-320-17	TRANSISTOR 2SA1122CD					
Q059	8-729-901-00	TRANSISTOR DTC124EK					
Q060	8-729-100-66	TRANSISTOR 2SC1623					
Q061	8-729-100-66	TRANSISTOR 2SC1623					
Q062	8-729-100-66	TRANSISTOR 2SC1623					
Q063	8-729-100-66	TRANSISTOR 2SC1623					
Q064	8-729-100-66	TRANSISTOR 2SC1623					
Q065	8-729-100-66	TRANSISTOR 2SC1623					
Q066	8-729-320-17	TRANSISTOR 2SA1122CD					
Q067	8-729-320-17	TRANSISTOR 2SA1122CD					
Q068	8-729-901-05	TRANSISTOR DTA124EK					
Q069	8-729-901-00	TRANSISTOR DTC124EK					
Q070	8-729-901-05	TRANSISTOR DTA124EK					
Q071	8-729-901-00	TRANSISTOR DTC124EK					
Q072	8-729-117-54	TRANSISTOR 2SA1175					

RESISTOR

R001	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R002	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R003	1-216-748-11	METAL GLAZE	39K	5%	1/10W
R004	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R005	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R006	1-216-748-11	METAL GLAZE	39K	5%	1/10W
R007	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R008	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R009	1-216-045-00	METAL GLAZE	680	5%	1/10W
R010	1-216-748-11	METAL GLAZE	39K	5%	1/10W
R011	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R012	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R013	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R014	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R015	1-216-037-00	METAL GLAZE	330	5%	1/10W
R016	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R017	1-216-071-00	METAL GLAZE	6.2K	5%	1/10W
R018	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R019	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R020	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R021	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R022	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R023	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R024	1-216-058-00	METAL GLAZE	2.4K	5%	1/10W
R025	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W
R026	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R027	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R028	1-216-748-11	METAL GLAZE	39K	5%	1/10W
R029	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R030	1-216-748-11	METAL GLAZE	39K	5%	1/10W
R031	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R032	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R033	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R034	1-216-077-00	METAL GLAZE	15K	5%	1/10W

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R035	1-216-748-11	METAL GLAZE	39K 5% 1/10W	R091	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R036	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R092	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R037	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R093	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R038	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R094	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R039	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R095	1-216-047-00	METAL GLAZE	820 5% 1/10W
R040	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R096	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R041	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R097	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R042	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R098	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R043	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R099	1-216-295-00	METAL GLAZE	0 5% 1/10W
R044	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R100	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R045	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R101	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R046	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R102	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R047	1-216-021-00	METAL GLAZE	68 5% 1/10W	R103	1-216-295-00	METAL GLAZE	0 5% 1/10W
R048	1-216-025-00	METAL GLAZE	100 5% 1/10W	R104	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R049	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R105	1-216-295-00	METAL GLAZE	0 5% 1/10W
R050	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R106	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R051	1-216-033-00	METAL GLAZE	220 5% 1/10W	R107	1-216-056-00	METAL GLAZE	2K 5% 1/10W
R052	1-216-025-00	METAL GLAZE	100 5% 1/10W	R108	1-216-056-00	METAL GLAZE	2K 5% 1/10W
R053	1-216-025-00	METAL GLAZE	100 5% 1/10W	R109	1-216-025-00	METAL GLAZE	100 5% 1/10W
R054	1-216-039-00	METAL GLAZE	390 5% 1/10W	R110	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R055	1-216-045-00	METAL GLAZE	680 5% 1/10W	R111	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R059	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R112	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R059	1-216-295-00	METAL GLAZE	0 5% 1/10W	R113	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R061	1-216-748-11	METAL GLAZE	39K 5% 1/10W	R114	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R062	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R115	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R063	1-216-099-00	METAL GLAZE	120K 5% 1/10W	R116	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R064	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R117	1-216-041-00	METAL GLAZE	470 5% 1/10W
R065	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R118	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R066	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R119	1-216-748-11	METAL GLAZE	39K 5% 1/10W
R067	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R120	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R068	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R121	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R069	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R122	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R070	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R123	1-216-748-11	METAL GLAZE	39K 5% 1/10W
R071	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R124	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R072	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R125	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R073	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R126	1-216-047-00	METAL GLAZE	820 5% 1/10W
R074	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R127	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R075	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R128	1-216-748-11	METAL GLAZE	39K 5% 1/10W
R076	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R129	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R077	1-216-047-00	METAL GLAZE	820 5% 1/10W	R130	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R078	1-216-079-00	METAL GLAZE	18K 5% 1/10W	R131	1-216-043-00	METAL GLAZE	560 5% 1/10W
R079	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R132	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R080	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R133	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R081	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R134	1-216-047-00	METAL GLAZE	820 5% 1/10W
R082	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R135	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R083	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R136	1-216-748-11	METAL GLAZE	39K 5% 1/10W
R084	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R137	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R085	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R138	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R086	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R139	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R087	1-216-037-00	METAL GLAZE	330 5% 1/10W	R140	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R088	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R141	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R089	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R142	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R090	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R143	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W

When Indicating parts by reference number, please include the board name.

af.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R148	1-216-295-00	METAL GLAZE	0 5% 1/10W	R205	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R150	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R206	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R151	1-216-748-11	METAL GLAZE	39K 5% 1/10W	R207	1-216-039-00	METAL GLAZE	390 5% 1/10W
R152	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R208	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R153	1-216-295-00	METAL GLAZE	0 5% 1/10W	R209	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R155	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R210	1-216-099-00	METAL GLAZE	120K 5% 1/10W
R156	1-216-083-00	METAL GLAZE	2.7K 5% 1/10W	R211	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R157	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R212	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R158	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R213	1-216-086-00	METAL GLAZE	33K 5% 1/10W
R159	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R214	1-216-041-00	METAL GLAZE	470 5% 1/10W
R160	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R215	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R161	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R216	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R162	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R217	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R163	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R218	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R164	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R219	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R165	1-216-047-00	METAL GLAZE	820 5% 1/10W	R220	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R166	1-216-058-00	METAL GLAZE	2.4K 5% 1/10W	R221	1-216-748-11	METAL GLAZE	39K 5% 1/10W
R167	1-216-083-00	METAL GLAZE	2.7K 5% 1/10W	R222	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R168	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R223	1-216-039-00	METAL GLAZE	0 5% 1/10W
R169	1-216-043-00	METAL GLAZE	560 5% 1/10W	R224	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R170	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R225	1-216-041-00	METAL GLAZE	470 5% 1/10W
R171	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R226	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R173	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R227	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R174	1-216-121-00	METAL GLAZE	1K 5% 1/10W	R228	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R175	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R229	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R176	1-216-043-00	METAL GLAZE	560 5% 1/10W	R230	1-216-748-11	METAL GLAZE	39K 5% 1/10W
R177	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R231	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R178	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R232	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R179	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R233	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R180	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R234	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R181	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R235	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R182	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R236	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R183	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R237	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R184	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R238	1-216-748-11	METAL GLAZE	39K 5% 1/10W
R185	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R239	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R186	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R240	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R187	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R241	1-216-748-11	METAL GLAZE	39K 5% 1/10W
R188	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R242	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R189	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R243	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R190	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R244	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R191	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R245	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R192	1-216-021-00	METAL GLAZE	68 5% 1/10W	R246	1-216-748-11	METAL GLAZE	39K 5% 1/10W
R193	1-216-025-00	METAL GLAZE	100 5% 1/10W	R247	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R194	1-216-295-00	METAL GLAZE	0 5% 1/10W	R248	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R196	1-216-748-11	METAL GLAZE	39K 5% 1/10W	R249	1-216-748-11	METAL GLAZE	39K 5% 1/10W
R197	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R250	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R198	1-216-099-00	METAL GLAZE	120K 5% 1/10W	R251	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R199	1-216-039-00	METAL GLAZE	390 5% 1/10W	R252	1-216-748-11	METAL GLAZE	39K 5% 1/10W
R200	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R253	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R201	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R254	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R202	1-216-099-00	METAL GLAZE	120K 5% 1/10W	R255	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R203	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R256	1-216-058-00	METAL GLAZE	2.4K 5% 1/10W
R204	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R257	1-216-049-00	METAL GLAZE	1K 5% 1/10W

When indicating parts by reference number, please include the board name.

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Ref.No	Part No.	Description	Remark
R258	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R259	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R260	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R261	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R262	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R263	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R264	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R265	1-249-411-11	CARBON 330 5%	1/4W
R266	1-216-748-11	METAL GLAZE 39K 5%	1/10W
R267	1-216-077-00	METAL GLAZE 15K 5%	1/10W
R268	1-249-411-11	CARBON 330 5%	1/4W
R269	1-216-748-11	METAL GLAZE 39K 5%	1/10W
R270	1-216-077-00	METAL GLAZE 15K 5%	1/10W
R271	1-249-411-11	CARBON 330 5%	1/4W
R272	1-216-748-11	METAL GLAZE 39K 5%	1/10W
R273	1-216-077-00	METAL GLAZE 15K 5%	1/10W
R274	1-249-411-11	CARBON 330 5%	1/4W
R275	1-216-748-11	METAL GLAZE 39K 5%	1/10W
R276	1-216-077-00	METAL GLAZE 15K 5%	1/10W
R277	1-216-021-00	METAL GLAZE 68 5%	1/10W
R278	1-216-021-00	METAL GLAZE 68 5%	1/10W
R279	1-216-021-00	METAL GLAZE 68 5%	1/10W
R280	1-216-021-00	METAL GLAZE 68 5%	1/10W
R281	1-216-021-00	METAL GLAZE 68 5%	1/10W
R282	1-216-039-00	METAL GLAZE 390 5%	1/10W
R283	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
R284	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R285	1-216-099-00	METAL GLAZE 120K 5%	1/10W
R286	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R287	1-216-085-00	METAL GLAZE 33K 5%	1/10W
R288	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R289	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R290	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R291	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R292	1-216-099-00	METAL GLAZE 120K 5%	1/10W
R293	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R294	1-216-075-00	METAL GLAZE 12K 5%	1/10W
R295	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R296	1-216-095-00	METAL GLAZE 82K 5%	1/10W
R297	1-216-695-11	METAL CHIP 68K 0.50%	1/10W
R298	1-216-691-11	METAL CHIP 47K 0.50%	1/10W
R299	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R300	1-216-091-00	METAL GLAZE 5K 5%	1/10W
R302	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R303	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R304	1-216-041-00	METAL GLAZE 470 5%	1/10W
R306	1-216-045-00	METAL GLAZE 680 5%	1/10W
R322	1-216-075-00	METAL GLAZE 12K 5%	1/10W
R324	1-216-295-00	METAL GLAZE 0 5%	1/10W
R325	1-216-295-00	METAL GLAZE 0 5%	1/10W
R327	1-216-295-00	METAL GLAZE 0 5%	1/10W
R329	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R330	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W

Ref.No	Part No.	Description	Remark
R331	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R332	1-216-099-00	METAL GLAZE 2.7K 5%	1/10W
R333	1-216-047-00	METAL GLAZE 820 5%	1/10W
R334	1-216-061-00	METAL GLAZE 1.3K 5%	1/10W
R335	1-216-058-00	METAL GLAZE 2.4K 5%	1/10W
R336	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W
R337	1-216-085-00	METAL GLAZE 33K 5%	1/10W
R338	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W
R339	1-216-083-00	METAL GLAZE 2.7K 5%	1/10W
R340	1-216-025-00	METAL GLAZE 100 5%	1/10W
R341	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R342	1-216-121-00	METAL GLAZE 1M 5%	1/10W
R501	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R502	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R503	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R504	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R506	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R507	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R508	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R509	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R510	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W
R511	1-216-039-00	METAL GLAZE 390 5%	1/10W
R512	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R513	1-216-019-00	METAL GLAZE 55 5%	1/10W
R514	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R516	1-216-056-00	METAL GLAZE 2K 5%	1/10W
R517	1-216-099-00	METAL GLAZE 47K 5%	1/10W
R518	1-216-077-00	METAL GLAZE 15K 5%	1/10W
R519	1-216-077-00	METAL GLAZE 15K 5%	1/10W
R524	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R525	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R526	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R527	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R528	1-216-025-00	METAL GLAZE 100 5%	1/10W
R529	1-216-025-00	METAL GLAZE 100 5%	1/10W
R530	1-216-025-00	METAL GLAZE 100 5%	1/10W
R531	1-216-025-00	METAL GLAZE 100 5%	1/10W
R532	1-216-025-00	METAL GLAZE 100 5%	1/10W
R533	1-216-025-00	METAL GLAZE 100 5%	1/10W
R534	1-216-025-00	METAL GLAZE 100 5%	1/10W
R535	1-216-025-00	METAL GLAZE 100 5%	1/10W
R537	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R538	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R539	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R540	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R541	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R542	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R543	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R544	1-216-077-00	METAL GLAZE 15K 5%	1/10W
R545	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R546	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R547	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R548	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R549	1-216-089-00	METAL GLAZE 47K 5%	1/10W

When indicating parts by reference number, please include the board name.

#F.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
3550	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R606	1-216-025-00	METAL GLAZE 100 5%	1/10W
3551	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R607	1-216-025-00	METAL GLAZE 100 5%	1/10W
3552	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R608	1-216-025-00	METAL GLAZE 100 5%	1/10W
3553	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R609	1-216-025-00	METAL GLAZE 100 5%	1/10W
3554	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R610	1-216-025-00	METAL GLAZE 100 5%	1/10W
3555	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R611	1-216-025-00	METAL GLAZE 100 5%	1/10W
3556	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R612	1-216-025-00	METAL GLAZE 100 5%	1/10W
3557	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R613	1-216-025-00	METAL GLAZE 100 5%	1/10W
3558	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R614	1-216-025-00	METAL GLAZE 100 5%	1/10W
3559	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R615	1-216-025-00	METAL GLAZE 100 5%	1/10W
3560	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R616	1-216-121-00	METAL GLAZE 1M 5%	1/10W
3561	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R617	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W
3562	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R618	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R563	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R619	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W
3567	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R620	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
3568	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R621	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W
3569	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R622	1-216-696-11	METAL CHIP 4.3K 0.50W	1/10W
3570	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R623	1-216-045-00	METAL GLAZE 680 5%	1/10W
3571	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R624	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W
3572	1-216-097-00	METAL GLAZE 100K 5%	1/10W				
						<u>VARIABLE RESISTOR</u>	
R573	1-216-097-00	METAL GLAZE 100K 5%	1/10W	RV001	1-230-521-11	RES, ADJ, METAL GLAZE 2.2K	
R574	1-216-097-00	METAL GLAZE 100K 5%	1/10W	RV003	1-230-526-11	RES, ADJ, METAL GLAZE 47K	
R575	1-216-097-00	METAL GLAZE 47K 5%	1/10W	RV004	1-230-526-11	RES, ADJ, METAL GLAZE 47K	
R576	1-216-097-00	METAL GLAZE 100K 5%	1/10W	RV005	1-230-523-11	RES, ADJ, METAL GLAZE 10K	
R577	1-216-097-00	METAL GLAZE 100K 5%	1/10W	RV007	1-230-523-11	RES, ADJ, METAL GLAZE 10K	
R578	1-216-097-00	METAL GLAZE 100K 5%	1/10W				
R579	1-216-089-00	METAL GLAZE 47K 5%	1/10W	RV008	1-230-523-11	RES, ADJ, METAL GLAZE 10K	
R580	1-216-089-00	METAL GLAZE 47K 5%	1/10W	RV009	1-230-523-11	RES, ADJ, METAL GLAZE 10K	
R581	1-216-089-00	METAL GLAZE 47K 5%	1/10W	RV010	1-230-523-11	RES, ADJ, METAL GLAZE 10K	
R582	1-216-073-00	METAL GLAZE 10K 5%	1/10W	RV011	1-230-526-11	RES, ADJ, METAL GLAZE 47K	
				RV012	1-230-520-11	RES, ADJ, METAL GLAZE 1K	
R583	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R584	1-216-073-00	METAL GLAZE 10K 5%	1/10W	RV013	1-230-526-11	RES, ADJ, METAL GLAZE 47K	
R585	1-216-073-00	METAL GLAZE 10K 5%	1/10W	RV014	1-230-528-11	RES, ADJ, METAL GLAZE 220K	
R586	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	RV015	1-230-528-11	RES, ADJ, METAL GLAZE 220K	
R587	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	RV016	1-230-526-11	RES, ADJ, METAL GLAZE 47K	
						<u>TRANSFORMER</u>	
R588	1-216-097-00	METAL GLAZE 100K 5%	1/10W	TD01	1-236-359-11	LPF	
R589	1-216-121-00	METAL GLAZE 1M 5%	1/10W	TD02	1-235-437-11	BPF, PB C	
R590	1-216-081-00	METAL GLAZE 22K 5%	1/10W	TD03	1-235-437-11	BPF, PB C	
R591	1-216-077-00	METAL GLAZE 15K 5%	1/10W	TD04	1-236-359-11	LPF	
R592	1-216-077-00	METAL GLAZE 15K 5%	1/10W	TD05	1-425-928-00	TRANSFORMER, DELAY ADJUSTING	
						<u>CRYSTAL</u>	
R593	1-216-089-00	METAL GLAZE 47K 5%	1/10W	X001	1-567-344-21	VIBRATOR, CRYSTAL (VCO)	
R594	1-216-077-00	METAL GLAZE 15K 5%	1/10W	X002	1-567-344-21	VIBRATOR, CRYSTAL (VCO)	
R595	1-216-089-00	METAL GLAZE 47K 5%	1/10W	X004	1-567-344-21	VIBRATOR, CRYSTAL (VCO)	
R596	1-216-025-00	METAL GLAZE 100 5%	1/10W	X005	1-567-344-21	VIBRATOR, CRYSTAL (VCO)	
R597	1-216-025-00	METAL GLAZE 100 5%	1/10W	X006	1-577-165-11	VIBRATOR, CERAMIC	
R598	1-216-025-00	METAL GLAZE 100 5%	1/10W	X008	1-577-165-11	VIBRATOR, CERAMIC	
R599	1-216-025-00	METAL GLAZE 100 5%	1/10W	X501	1-567-132-00	VIBRATOR, CERAMIC	
R600	1-216-025-00	METAL GLAZE 100 5%	1/10W	X502	1-567-160-21	OSCILLATOR, CERAMIC	
R601	1-216-025-00	METAL GLAZE 100 5%	1/10W	X503	1-567-160-21	OSCILLATOR, CERAMIC	
R602	1-216-025-00	METAL GLAZE 100 5%	1/10W	X504	1-567-344-21	VIBRATOR, CRYSTAL (VCO)	
R603	1-216-025-00	METAL GLAZE 100 5%	1/10W				
R604	1-216-025-00	METAL GLAZE 100 5%	1/10W				
R605	1-216-025-00	METAL GLAZE 100 5%	1/10W				

When indicating parts by reference number, please include the board name.

DM-15P

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
*A-7061-509-A DM-15 (P) BOARD, COMPLETE (Ref.No. 6,000 ***** Series)							
<u>CAPACITOR</u>							
C401	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C459	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C402	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C460	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
C403	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C462	1-163-012-00	CERAMIC CHIP 0.001MF	10% 50V
C404	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C463	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C405	1-124-589-11	ELECT 47MF	20% 10V	<u>CONNECTOR</u>			
C406	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	CN401	1-565-210-11	CONNECTOR, FPC (ZIF) 30P	
C407	1-124-257-00	ELECT 2.2MF	20% 50V	<u>DIODE</u>			
C408	1-126-160-11	ELECT 1MF	20% 50V	D401	8-719-100-05	DIODE 1S2837	
C409	1-126-160-11	ELECT 1MF	20% 50V	D402	8-719-801-41	DIODE 1S5196	
C410	1-124-589-11	ELECT 47MF	20% 10V	<u>IC</u>			
C411	1-126-160-11	ELECT 1MF	20% 50V	IC401	8-759-630-56	IC M55011FP-D	
C412	1-124-589-11	ELECT 47MF	20% 10V	IC402	8-759-630-77	IC M50747-651FP	
C413	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	IC403	8-752-032-55	IC CXA1096H	
C414	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	IC404	8-759-112-82	IC UPD6930C	
C415	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	IC405	8-759-205-06	IC TC74HC74F	
C416	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	IC406	8-759-605-15	IC MSM4C500L	
C417	1-163-133-00	CERAMIC CHIP 470PF	5% 50V	IC407	8-759-605-15	IC MSM4C500L	
C419	1-126-157-11	ELECT 10MF	20% 10V	IC408	8-759-605-15	IC MSM4C500L	
C423	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	IC409	8-759-605-15	IC MSM4C500L	
C424	1-124-589-11	ELECT 47MF	20% 10V	IC410	8-759-007-69	IC MC74HC157F	
C425	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	IC411	8-759-007-69	IC MC74HC157F	
C426	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	IC412	8-759-605-14	IC MS2678P	
C428	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	IC413	8-759-605-13	IC MS2679P	
C430	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	IC414	8-759-605-13	IC MS2679P	
C431	1-124-589-11	ELECT 47MF	20% 10V	IC415	1-808-110-11	IC HGA0801	
C432	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	IC416	8-759-011-65	IC MC74HC4053F	
C433	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	IC417	8-759-204-96	IC TC74HC04F	
C434	1-124-589-11	ELECT 47MF	20% 10V	<u>COIL</u>			
C435	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	L403	1-408-976-21	INDUCTOR 33UH	
C436	1-124-589-11	ELECT 47MF	20% 10V	L404	1-408-976-21	INDUCTOR 33UH	
C437	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	<u>TRANSISTOR</u>			
C438	1-124-589-11	ELECT 47MF	20% 10V	Q401	8-729-100-66	TRANSISTOR 2SC1623	
C439	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	Q402	8-729-100-66	TRANSISTOR 2SC1623	
C441	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	Q403	8-729-901-01	TRANSISTOR DTC144EX	
C443	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	<u>RESISTOR</u>			
C445	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	R401	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
C446	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	R402	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
C447	1-124-589-11	ELECT 47MF	20% 10V	R403	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
C448	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	R404	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
C449	1-124-589-11	ELECT 47MF	20% 10V	R405	1-216-032-00	METAL GLAZE 200 5% 1/10W	
C450	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	R406	1-216-032-00	METAL GLAZE 200 5% 1/10W	
C451	1-124-589-11	ELECT 47MF	20% 10V	R407	1-216-047-00	METAL GLAZE 820 5% 1/10W	
C452	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V	R408	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
C453	1-124-589-11	ELECT 47MF	20% 10V	R409	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
C454	1-126-157-11	ELECT 10MF	20% 10V	R410	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
C455	1-126-157-11	ELECT 10MF	20% 10V	R413	1-216-025-00	METAL GLAZE 100 5% 1/10W	
C456	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V				
C457	1-124-589-11	ELECT 47MF	20% 10V				
C458	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V				

When indicating parts by reference number, please include the board name.

DM-15P

LD-1

MS-4

LS-9

HE-1

MJ-15

CC-11

TS-74

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R417	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W				<u>JACK</u>	
R418	1-216-029-00	METAL GLAZE 160 5% 1/10W		J201	1-507-792-00	JACK (HEADPHONES)	
R419	1-216-047-00	METAL GLAZE 820 5% 1/10W				*****	
R420	1-216-033-00	METAL GLAZE 220 5% 1/10W				*A-7070-614-A MJ-15 BOARD, COMPLETE (Ref.No.8,000 Series)	
R422	1-216-025-00	METAL GLAZE 100 5% 1/10W				<u>CAPACITOR</u>	
R423	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W				C301	1-163-038-00 CERAMIC CHIP 0.1MF 25V
R425	1-216-295-00	METAL GLAZE 0 5% 1/10W				<u>CONNECTOR</u>	
R426	1-216-295-00	METAL GLAZE 0 5% 1/10W		CN301	*1-506-468-11	PIN, CONNECTOR 3P	
R469	1-216-073-00	METAL GLAZE 10K 5% 1/10W				<u>DIODE</u>	
R470	1-216-073-00	METAL GLAZE 10K 5% 1/10W		D301	8-719-108-12	DIODE RD9.1EW	
		<u>CRYSTAL</u>				<u>JACK</u>	
X401	1-567-132-00	VIBRATOR, CERAMIC		J301	1-507-995-21	JACK, MICROPHONE (MIC)	
X402	1-567-718-11	OSCILLATOR, CRYSTAL				*****	
		*****				*A-7070-024-A LD-1 BOARD, COMPLETE (Ref.No.9,000 Series)	
		<u>DIODE</u>				<u>CONNECTOR</u>	
D901	8-719-928-54	DIODE GL-450S				CN102	1-566-770-11 SOCKET, CONNECTOR BP (CONTROLLER)
		*****				<u>COMPOSITION CIRCUIT BLOCK</u>	
		*A-7090-029-A MS-4 BOARD, COMPLETE (Ref.No.9,000 Series)		CP101	1-232-128-11	COMPOSITION CIRCUIT BLOCK	
		<u>CAPACITOR</u>				*****	
C901	1-163-038-00	CERAMIC CHIP 0.1MF 25V				*A-7070-620-A CC-11 BOARD, COMPLETE (Ref.No.8,000 Series)	
		<u>CONNECTOR</u>				3-697-998-01	PLATE, GROUND
CN001	*1-564-671-31	PIN, CONNECTOR (HOOK TYPE)				<u>CONNECTOR</u>	
		*****				CP101	1-232-128-11 COMPOSITION CIRCUIT BLOCK
		LS-9 BOARD (Ref.No.4,100 Series)				*****	
		<u>CONNECTOR</u>				*A-7070-627-A TS-74 (RIGHT) BOARD, COMPLETE (Ref.No.4,000 Series)	
CN001	*1-564-671-11	PIN, CONNECTOR (HOOK TYPE)				<u>TRANSISTOR</u>	
		*****				Q715	8-729-700-08 NJL7141E
		*A-7070-613-A HE-1 BOARD, COMPLETE (Ref.No.8,000 Series)				*****	
		<u>CAPACITOR</u>				*A-7070-628-A TS-74 (LEFT) BOARD, COMPLETE (Ref.No.4,000 Series)	
C201	1-163-035-00	CERAMIC CHIP 0.047MF 50V				<u>TRANSISTOR</u>	
C202	1-163-035-00	CERAMIC CHIP 0.047MF 50V				Q715	8-729-700-08 NJL7141E
		<u>CONNECTOR</u>				*****	
CN201	*1-506-468-11	PIN, CONNECTOR 3P					

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
	*A-7070-815-A	FB-2 (P) BOARD, COMPLETE (Ref.No. 8,000 ***** Series)		D021	8-719-941-46	DIODE GLSHY41 (LP: RP DECK)	
	*3-689-521-01	HOLDER, LED, ROUND		D022	8-719-941-46	DIODE GLSHY41 (SP: RP DECK)	
	*3-697-607-01	HOLDER (SU), LED		D023	8-719-812-31	DIODE TLR123 (AUDIO DUB)	
				D024	8-719-939-36	DIODE GLSHY42 (EJECT: RP DECK)	
				D025	8-719-941-46	DIODE GLSHY41 (J/S: RP DECK)	
		<u>CAPACITOR</u>		D026	8-719-812-31	DIODE TLR123 (REC: RP DECK)	
C001	1-163-035-00	CERAMIC CHIP 0.047MF	50V	D027	8-719-918-96	DIODE AA34225 (PAUSE: RP DECK)	
C002	1-163-035-00	CERAMIC CHIP 0.047MF	50V	D028	8-719-812-32	DIODE TLY123 (FF: RP DECK)	
C003	1-163-035-00	CERAMIC CHIP 0.047MF	50V	D029	8-719-920-05	DIODE SLP281C-50 (PLAY: RP DECK)	
C004	1-163-035-00	CERAMIC CHIP 0.047MF	50V	D030	8-719-812-32	DIODE TLY123 (REW: RP DECK)	
C005	1-163-035-00	CERAMIC CHIP 0.047MF	50V	D031	8-719-101-23	DIODE 1SS123	
C006	1-163-035-00	CERAMIC CHIP 0.047MF	50V	D032	8-719-101-23	DIODE 1SS123	
C007	1-163-035-00	CERAMIC CHIP 0.047MF	50V	D033	8-719-101-23	DIODE 1SS123	
C008	1-163-035-00	CERAMIC CHIP 0.047MF	50V	D034	8-719-101-23	DIODE 1SS123	
C009	1-163-035-00	CERAMIC CHIP 0.047MF	50V	D035	8-719-101-23	DIODE 1SS123	
C101	1-163-127-00	CERAMIC CHIP 270PF	10% 50V	D037	8-719-101-23	DIODE 1SS123	
C103	1-126-153-11	ELECT 22NF	20% 6.3V	D038	8-719-101-23	DIODE 1SS123	
C104	1-126-160-11	ELECT 1MF	20% 50V	D039	8-719-101-23	DIODE 1SS123	
C105	1-126-094-11	ELECT 4.7MF	20% 16V	D040	8-719-101-23	DIODE 1SS123	
C106	1-163-038-00	CERAMIC CHIP 0.1MF	25V	D041	8-719-101-23	DIODE 1SS123	
C107	1-163-038-00	CERAMIC CHIP 0.1MF	25V	D042	8-719-101-23	DIODE 1SS123	
C108	1-163-038-00	CERAMIC CHIP 0.1MF	25V	D043	8-719-101-23	DIODE 1SS123	
C111	1-163-035-00	CERAMIC CHIP 0.047MF	50V	D044	8-719-101-23	DIODE 1SS123	
C112	1-163-035-00	CERAMIC CHIP 0.047MF	50V	D045	8-719-101-23	DIODE 1SS123	
C113	1-123-622-31	ELECT 22NF	20% 16V	D046	8-719-101-23	DIODE 1SS123	
C114	1-123-622-31	ELECT 22NF	20% 16V			<u>IC</u>	
C115	1-163-038-00	CERAMIC CHIP 0.1MF	25V	IC001	8-759-937-21	IC CXD1078M	
		<u>CONNECTOR</u>		IC002	8-759-937-21	IC CXD1078M	
CN006	1-506-471-11	PIN, CONNECTOR 6P		IC101	8-759-710-97	IC NJM562M	
		<u>DIODE</u>		IC102	8-759-745-64	IC NJM560M	
D001	8-719-920-05	DIODE SLP281C-50 (POWER)				<u>COIL</u>	
D002	8-719-945-82	DIODE GLSH542 (STANDBY)		L001	1-410-393-11	INDUCTOR CHIP 100UH	
D003	8-719-812-31	DIODE TLR123 (SAVE)				<u>TRANSISTOR</u>	
D004	8-719-812-32	DIODE TLY123 (LOAD)		Q001	8-729-901-06	TRANSISTOR 2TA144EK	
D005	8-719-812-31	DIODE TLR123 (EDIT)		Q002	8-729-901-06	TRANSISTOR 2TA144EK	
D006	8-719-812-32	DIODE TLY123 (REW: PB DECK)		Q004	8-729-901-06	TRANSISTOR 2TA144EK	
D007	8-719-920-05	DIODE SLP281C-50 (PLAY: PB DECK)		Q101	8-729-202-38	TRANSISTOR 2SC3326N	
D008	8-719-812-32	DIODE TLY123 (FF: PB DECK)		Q102	8-729-100-75	TRANSISTOR 2SA812-M5	
D009	8-719-918-96	DIODE AA34225 (PAUSE: PB DECK)		Q103	8-729-100-66	TRANSISTOR 2SC1623	
D010	8-719-941-46	DIODE GLSHY41 (J/S: PB DECK)		Q104	8-729-100-66	TRANSISTOR 2SC1623	
D011	8-719-939-36	DIODE GLSHY42 (EJECT: PB DECK)		Q105	8-729-100-66	TRANSISTOR 2SC1623	
D012	8-719-941-46	DIODE GLSHY41 (SP: PB DECK)		Q106	8-729-100-75	TRANSISTOR 2SA812-M5	
D013	8-719-941-46	DIODE GLSHY41 (LP: PB DECK)		Q107	8-729-202-38	TRANSISTOR 2SC3326N	
D014	8-719-812-31	DIODE TLR123 (WRITE)		Q108	8-729-202-38	TRANSISTOR 2SC3326N	
D015	8-719-941-46	DIODE GLSHY41 (J/S: PB DECK)				<u>RESISTOR</u>	
D016	8-719-928-50	DIODE LT-9002N (PCM: PB DECK)		R001	1-216-029-00	METAL GLAZE 150 5% 1/10W	
D017	8-719-918-96	DIODE AA34225 (FFS: PB DECK)		R002	1-216-037-00	METAL GLAZE 330 5% 1/10W	
D018	8-719-918-96	DIODE AA34225 (FFS: RP DECK)		R003	1-216-037-00	METAL GLAZE 330 5% 1/10W	
D019	8-719-928-50	DIODE LT-9002N (PCM: RP DECK)		R004	1-216-037-00	METAL GLAZE 330 5% 1/10W	
D020	8-719-941-46	DIODE GLSHY41 (J/S: RP DECK)					

When indicating parts by reference number, please include the board name.

FB-2P

TR-26P

TC-7P

JB-1P

JB-2P

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
S020	1-554-174-00	SWITCH, KEY BOARD (PAUSE)		*A-7070-618-A JB-2 (P) BOARD, COMPLETE (Ref.No. 8,000 Series)			
S021	1-554-174-00	SWITCH, KEY BOARD (REW)					
S022	1-554-174-00	SWITCH, KEY BOARD (STOP)					
S023	1-554-174-00	SWITCH, KEY BOARD (REC)					
S024	1-554-174-00	SWITCH, KEY BOARD (FF)					
S025	1-554-174-00	SWITCH, KEY BOARD (AUDIO DUB)					
S026	1-554-174-00	SWITCH, KEY BOARD					
S101	1-570-836-11	SWITCH, SLIDE (MONITOR)					
S102	1-570-836-11	SWITCH, SLIDE (PLAYER)					

*A-7070-615-A TR-26 (P) BOARD, COMPLETE (Ref.No. 8,000 Series)							

IG-1P

CO-3

CO-4

ef.No Part No. Description Remark
 *A-7070-822-A IG-1 (P) BOARD, COMPLETE (Ref.No. 9,000
 ***** Series)

CONNECTOR

CN001 *1-564-022-31 PIN, CONNECTOR 12P
 CN002 1-506-489-11 PIN, CONNECTOR 10P
 CN003 1-506-484-11 PIN, CONNECTOR 5P
 CN004 1-506-483-21 PIN, CONNECTOR 4P
 CN005 *1-564-022-41 PIN, CONNECTOR 12P

CN006 *1-564-037-11 PIN, CONNECTOR 12P
 CN007 1-506-482-11 PIN, CONNECTOR 3P

IC LINK

PS001A 1-532-839-21 LINK, IC (PRF 1000 1A)
 PS002A 1-532-837-21 LINK, IC (PRF 530 0.63A)
 PS003A 1-532-838-21 LINK, IC (PRF 800 0.8A)
 PS004A 1-532-838-21 LINK, IC (PRF 800 0.8A)
 PS005A 1-532-841-21 LINK, IC (PRF 1600 1.6A)

PS006A 1-532-838-21 LINK, IC (PRF 800 0.8A)
 PS007A 1-532-841-21 LINK, IC (PRF 1600 1.6A)
 PS008A 1-532-837-21 LINK, IC (PRF 530 0.63A)
 PS009A 1-532-838-21 LINK, IC (PRF 800 0.8A)
 PS010 1-532-838-21 LINK, IC (PRF 800 0.8A)

PS011 1-532-841-21 LINK, IC (PRF 1600 1.6A)
 PS012 1-532-837-21 LINK, IC (PRF 530 0.63A)

TRANSISTOR

Q001 8-729-117-54 TRANSISTOR 2SA1175-F

RESISTOR

R001 1-249-441-11 CARBON 100K 5% 1/4W
 R002 1-249-437-11 CARBON 47K 5% 1/4W

Ref.No Part No. Description Remark
 *A-7070-825-A CO-3 BOARD, COMPLETE (Ref.No. 8,000
 ***** Series)

CAPACITOR

C401 1-163-038-00 CERAMIC CHIP 0.1MF 25V
 C402 1-163-038-00 CERAMIC CHIP 0.1MF 25V
 C403 1-126-157-11 ELECT 10MF 20% 10V

TRANSISTOR

Q401 8-729-901-01 TRANSISTOR DTC144EK
 Q402 8-729-901-01 TRANSISTOR DTC144EK

RESISTOR

R401 1-216-049-00 METAL GLAZE 1K 5% 1/10W
 R402 1-216-049-00 METAL GLAZE 1K 5% 1/10W

VARIABLE RESISTOR

RV401 1-230-661-11 RES, VAR, CARBON 10K (IN POINT ADJUST)
 RV402 1-230-661-11 RES, VAR, CARBON 10K (OUT POINT ADJUST)

SWITCH

S401 1-570-157-11 SWITCH, SLIDE (MODE SELECT)



*A-7070-826-A CO-4 BOARD, COMPLETE (Ref.No. 8,000
 ***** Series)

DIODE

D501 8-719-109-93 DIODE R05.2ES-B2

JACK

J501 1-507-990-31 JACK (PAUSE OUT)

Note: The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

POWER BLOCK

Ref.No Part No. Description
 A1-413-412-12 POWER BLOCK

 9-993- -01 POWER BOARD

CAPACITOR

C101 A		0.47MF	250V
C102 A		0.0047MF	400V
C103 A		0.0047MF	400V
C104	ELECT	47MF	400V
C105		0.01MF	530V
C106		0.00047MF	2KV
C107	1-130-497-11	MYLAR	50V
C108	1-130-487-11	MYLAR	50V
C109	1-130-491-11	MYLAR	50V
C110	1-130-491-11	MYLAR	50V
C111		0.0047MF	400V
C112		0.0047MF	400V
C113		0.0047MF	400V
C114		0.0047MF	400V
C201	9-993-702-01	ELECT	2200MF
C202	1-124-126-11	ELECT	47MF
C203	1-123-875-11	ELECT	10MF
C204	9-993-705-01	ELECT	1000MF
C205	9-993-705-01	ELECT	1000MF
C206	9-993-703-01	ELECT	3900MF
C207	9-993-703-01	ELECT	3900MF
C208	1-123-875-11	ELECT	10MF
C209	9-993-704-01	ELECT	1500MF
C210	9-993-704-01	ELECT	1500MF
C211 A	9-993-706-01	ELECT	1MF
C212 A	9-993-704-01	ELECT	1500MF
C213	1-124-126-11	ELECT	47MF
C214	1-123-875-11	ELECT	10MF
C215	1-123-875-11	ELECT	10MF
C216	1-130-483-11	MYLAR	0.01MF
C217	1-130-483-11	MYLAR	0.01MF

Remark	Ref.No	Part No.	Description	Remark
	C218	9-993-704-01	ELECT	1500MF
	C219	1-136-283-21	FILM	0.1MF
	C220	9-993-706-01	ELECT	1MF

DIODE

D101 A	8-719-510-06	DIODE	SIW860
D102	9-993-709-01	DIODE	SH-1FX08
D103	9-993-711-01	DIODE	DS444
D104	9-993-711-01	DIODE	DS442
D105	9-993-711-01	DIODE	DS442
D201	8-719-907-41	DIODE	ER843-02
D202	9-993-712-01	DIODE	F10P040
D203	9-993-712-01	DIODE	F10P040
D204	8-719-200-29	DIODE	110Q04
D205	8-719-907-41	DIODE	ER843-02
D206	8-719-200-82	DIODE	11ES2
D207	8-719-200-82	DIODE	11ES2
D208	8-719-200-82	DIODE	11ES2

FUSE

F101 A, 1-532-078-11 FUSE, TIME-LAG (1A 250V)

IC

IC201	9-993-713-01	IC	MS231L
IC202	9-993-713-01	IC	MS231L
IC203	9-993-714-01	IC	L5431
IC204		IC	TA79L009

COIL

L101 A		LINE FILTER
L201	9-993-716-01	COIL, CHOKE
L202	9-993-716-01	COIL, CHOKE
L203	9-993-716-01	COIL, CHOKE
L204	9-993-716-01	COIL, CHOKE

PHOTO COUPLER

PC101 A		PHOTO COUPLER	PC-101
PC201 A	8-719-902-56	PHOTO COUPLER	PC-817

TRANSISTOR

Q101 A		TRANSISTOR	2SC3909
Q102 A	8-729-906-02	TRANSISTOR	2SC2050Q
Q201	8-729-281-53	TRANSISTOR	2SC1815
Q202	9-993-708-01	TRANSISTOR	2SC4064
Q203	8-729-281-53	TRANSISTOR	2SC1815
Q204	9-993-708-01	TRANSISTOR	2SC4064
Q205	8-729-281-53	TRANSISTOR	2SC1815
Q207	8-729-281-53	TRANSISTOR	2SC1815

RESISTOR

R101 A		METAL	1	2W
R102 A		METAL	2.2	5W
R103 A		CARBON	390K	1/2W
R104		METAL OXIDE	100K	2W
R105 A	1-206-479-61	METAL OXIDE	100	2W
R106	9-993-688-01	CARBON	2200	1/5W
R107	9-993-686-01	CARBON	1K	1/5W

Note: The components identified by mark A or dotted line with mark A are critical for safety.
 Replace only with part number specified.

When indicating parts by reference number, please include the board name.

POWER BLOCK

Q'ty	Part No.	Description	Remark
3	A-1-706-479-61	METAL OXIDE	47
3	9-993-683-01	CARBON	390
1	9-993-684-01	CARBON	470
1	9-993-692-01	CARBON	10K
2	9-993-692-01	CARBON	10K
3	9-993-694-01	CARBON	47K
4	9-993-694-01	CARBON	47K
5	9-993-693-01	CARBON	12K
6	9-993-693-01	CARBON	12K
7	9-993-690-01	CARBON	3300
9	9-993-694-01	CARBON	47K
9	9-993-694-01	CARBON	47K
0	9-993-695-01	CARBON	1K
1	9-993-691-01	CARBON	4700
2	9-993-690-01	CARBON	3300
3	9-993-685-01	CARBON	680
4	9-993-689-01	CARBON	2700
5	9-993-688-01	CARBON	2200
6	9-993-681-01	CARBON	47
7	9-993-694-01	CARBON	47K
8	9-993-694-01	CARBON	47K
11	9-993-682-01	CARBON	330
12	9-993-687-01	CARBON	1500

VARIABLE RESISTOR

01	9-993-718-01	RES. ADJ	5K
02	9-993-719-01	RES. ADJ	2K
03	9-993-719-01	RES. ADJ	2K

TRANSFORMER

1	9-993-717-01	TRANSFORMER, DRIVE	
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ZENER DIODE

201	8-719-160-43	ZENER DIODE RD9.1F	
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Ref. No	Part No.	Description	Remark
		MISCELLANEOUS	

	A-7048-102-A	DRUM ASSY (DGH-120-R)	
	1-161-057-00	CAP. CERAMIC 0.033MF X (FOR M904, M906)	
	A-1-525-954-11	AC INLET	
M902	8-835-304-01	MOTOR, DC U-11B (REEL)	
M903	8-835-196-11	MOTOR, DC BHF-2802A (CAPSTAN)	
M904	X-3711-936-1	MOTOR ASSY, FL (CASSETTE LOADING)	
M905	8-835-138-01	MOTOR, DC (DMR-53018) (CONTROL)	
M906	A-7040-065-A	MOTOR ASSY, L (LOADING)	
M907	1-541-360-21	MOTOR, DC BLUSHLESS FAN	
M901A	1-454-377-31	SOLENOID, PLUNGER	
S903	1-553-226-00	SWITCH, LEAF (CASSETTE LOCK)	
S904	1-554-942-11	SWITCH, PUSH (RECOG)	

ACCESSORIES AND PACKING MATERIALS

Part No.	Description	Remark
A-7002-262-A	CONTROLLER BLOCK ASSY (RM-E720)	
1-464-925-21	KEYBOARD, TITLE (K1-720P)	
1-506-412-11	ADAPTOR, PLUG	
1-506-521-11	PLUG ADAPTOR	
A-1-556-760-11	CORD, POWER (3 CORE)	
1-557-037-21	CABLE, AUDIO VIDEO	
1-558-102-11	CORD, CONNECTION	
1-574-516-11	CORD, CONNECTION	
*3-697-977-11	INDIVIDUAL CARTON	
*3-697-978-01	CUSHION (UPPER)	
*3-697-979-01	CUSHION (LOWER)	
*3-697-980-01	CUSHION, KEY BOARD	
*3-704-334-01	SHEET (STANDARD), PROTECTION	
*3-704-350-01	SHEET (STANDARD), PROTECTION	
3-769-840-41	MANUAL, INSTRUCTION	
3-769-840-51	MANUAL, INSTRUCTION	
3-769-840-61	MANUAL, INSTRUCTION (CARD)	
3-786-045-41	MANUAL, INSTRUCTION (CARD)	
3-786-045-51	MANUAL, INSTRUCTION (CARD)	
3-786-045-61	MANUAL, INSTRUCTION (CARD)	
4-362-945-01	BAG, PROTECTION	

Note: The components identified by mark A or dotted line with mark A are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark
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HARDWARE LIST

SCREW

7-621-255-20	SCREW +P	2X4	
7-621-255-25	SCREW +P	2X4	
7-621-255-50	SCREW +P	2X8	
7-621-255-65	SCREW +P	2X10	
7-621-772-10	SCREW +B	2X4	
7-627-553-18	SCREW, PRECISION +P	2X2	
7-627-553-28	SCREW, PRECISION +P	2X2.5	
7-627-553-48	SCREW, PRECISION +P	2X4	
7-627-850-18	SCREW, PRECISION +P	1.4X2.5	
7-628-253-00	SCREW +PS	2X4	
7-628-253-20	SCREW +PS	2X6	
7-628-254-10	+PSW, 2.6X6		
7-682-155-09	SCREW +P	3X30	
7-685-133-19	SCREW +P 2.6X6	TYPE2 NON-SLIT	
7-685-134-19	SCREW +P 2.6X8	TYPE2 NON-SLIT	
7-685-646-79	SCREW +BVTP	3X8 TYPE2 IT-3	
7-685-646-79	SCREW +BVTP	3X8 TYPE2 IT-3	
7-685-646-79	SCREW +BVTP	3X8 TYPE2	
7-685-646-79	SCREW +BVTP	3X8 TYPE2	
7-685-647-79	SCREW +BVTP	3X10 TYPE2 IT-3	
7-621-255-15	SCREW +PTT	2X3 (S)	
7-621-255-45	SCREW +BVTI	2X6 (S)	

STOP RING

7-624-102-04	STOP RING 1.5, TYPE -E
7-624-105-04	STOP RING 2.3, TYPE -E
7-624-106-04	STOP RING 3.0, TYPE -E

STEEL BALL

7-671-112-01	STEEL, BALL
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When indicating parts by reference number, please include the board name.

MEMO

SECTION 7

MECHANICAL ADJUSTMENTS

7-1. MECHANICAL CHECK, ADJUSTMENT AND PREPARATIONS FOR REPLACEMENT

Note: Regarding the removal procedures of the cabinet and boards, see Section 2. DISASSEMBLY.

7-1-1. Cassette Compartment Assembly and Operation without Tape Inserted

Note: The set will not operate if there is a strong light source near it.

1. Loading (See Fig. 7-1.)

- 1) Remove the upper/lower covers and front panel according to Section 2. DISASSEMBLY 2-1, 2-2.
- 2) Remove the cassette compartment assembly ① according to Section 2. DISASSEMBLY 2-15. (Do not remove connectors.)
- 3) Connect to power supply.
- 4) Apply tape to the RECOG switch ② to keep the pin pressed down.
- 5) Push microswitch ③ once in the direction of arrow ④ and release. (See Fig. 7-1.)
- 6) Turn on the leaf switch ⑤. (See Fig. 7-1.)

2. Putting into playback state (See Fig. 7-1.)

- 1) Perform 1. Loading.
 - 2) Hook the rubber band ⑤ between S reel and T reel.
 - 3) Press the playback button, and when the T reel side starts to rotate, push the tension regulator arm assembly ⑥ in the direction of arrow ⑦. (At this time, the tension regulator band is released and S reel side rotates.)
 - 4) Press the stop button to stop.
3. Eject (See Fig. 7-1.)
- 1) Press the EJECT button.

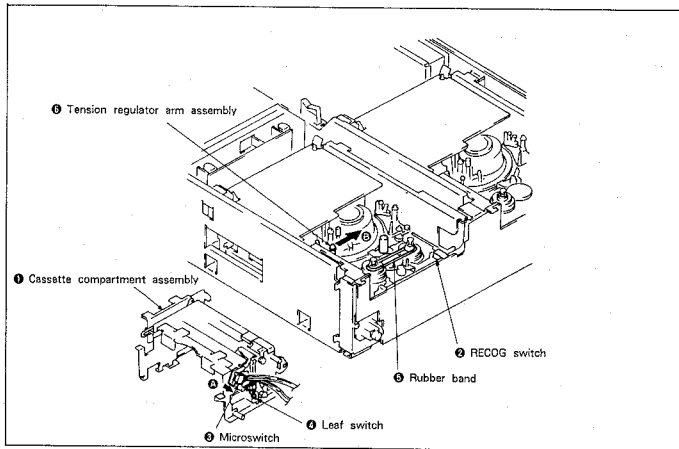


Fig. 7-1.

1-2. Handling of Mode Selector

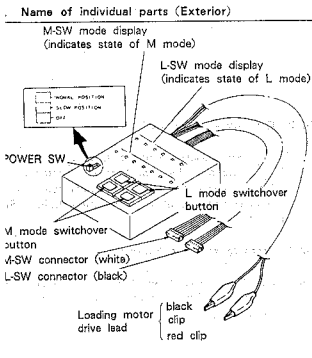


Fig. 7-2.

Connection (See Fig. 7-3.)

- 1) Remove the mechanism section according to Section 2, DISASSEMBLY 2-5.
- 2) Remove the MB-9P, MD-18P, HK-3 and SE-7P boards referring to Section 2, DISASSEMBLY 2-10 to 2-12.
- 3) Remove the two connectors on the MS-4 and LS-9 boards.
- 4) Insert the M-SW connector (6P connector, 6 harness, white) ① into the MS-4 board on the set.
- 5) Insert the L-SW connector (6P connector, 4 harness, black) ② into the LS-9 board on the set.
- 6) Connect the red clip of the loading motor drive lead ③ to the red lead wire side of the loading motor and the black clip to the gray lead wire side.

1. Caution

- 1) When operating L-SW, be sure to set the M-SW mode to LOADING/UNLOADING.
- 2) When operating M-SW, be sure to set the L-SW mode to LOADING TOP or LOADING END.

4. Handling

BLANK lights up regardless of L MODE or M MODE when it is in neither mode during select.

1) L-MODE

- When the right L-MODE switch button is pressed continuously, the display lights up from LOADING TOP → LOADING END, in order in right direction.
- To go from LOADING END → LOADING TOP, press the left switch button continuously until the desired MODE is reached.
- In slow position, the L mode operates more slowly than for normal position.

2) M-MODE

- Set L-SW to LOADING TOP before performing EJECT.
- Set L-SW to LOADING END to perform FF/REW → RVS or RVS → FF/REW.
- When the right M-MODE switch button is pressed continuously, the display lights up from EJECT → RVS, in order in right direction.
- To go from RVS → EJECT, press the left switch button continuously until the desired MODE is reached.

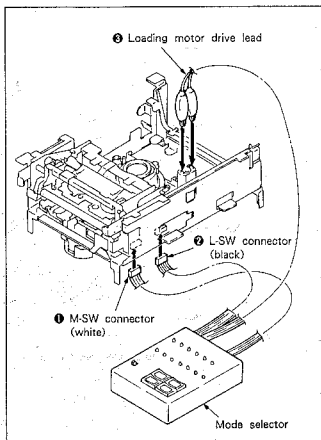


Fig. 7-3.

7-2. PERIODIC CHECK AND MAINTENANCE

Please perform the following periodic checks and maintenance in order to obtain optimum set function and performance, and to keep the mechanism and tape in good condition. Also, perform the maintenance below after repair, regardless of the length of time the set has been used by the user.

7-2-1. Cleaning of Rotary Drum Assembly

- 1) Press a chamois cloth (Ref. No. J-2) soaked in cleaning fluid (Ref. No. J-1) lightly against the rotary drum assembly, and slowly rotate the rotary upper drum assembly counterclockwise by hand to clean.

Note: Do not use the power supply to rotate the motor, and do not rotate the motor clockwise by hand.

Also, there is a danger of damaging the head tip if the chamois cloth is moved vertically relative to the head tip (up/down direction of drum), so please follow the instruction above for cleaning.

7-2-2. Cleaning of Tape Path

- 1) Place the cassette compartment assembly in EJECT state, and clean the tape path system (No.1 to No.11 guides, capstan shaft, pinch roller) with a chamois cloth soaked in cleaning fluid. (See Fig. 7-4.)

7-2-3. Cleaning of Drive System

- 1) Clean the drive system (timing belt, surface of reel tables) with a chamois cloth soaked in cleaning fluid.

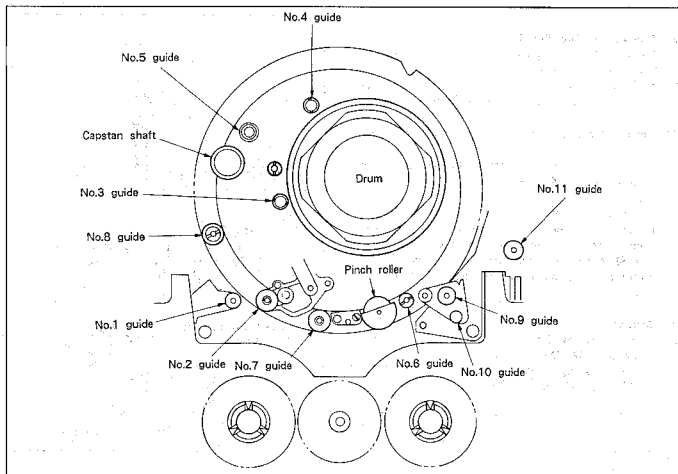


Fig. 7-4.

1-2.4. Periodic Check

Perform following according to number of hours of use.

○Cleaning ◎Lubrication ★Replacement ☆Check

Location		Hours of Use (H)										Notes
		500	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	
Tape Path	Cleaning of tape path surface	○	○	○	○	○	○	○	○	○	○	Be careful of oil
	Cleaning and degaussing of rotary drum assembly	○	○	○	○	○	○	○	○	○	○	Be careful of oil
Drive System	L motor belt	○	○	○	○	○	○	○	★	○	○	3-686-546-01. Replace here, or replace every two years.
	Plunger solenoid	-	-	-	○	-	-	-	○	-	-	1-454-377-21
	Capstan shaft bearing	-	◎	-	◎	-	◎	-	◎	-	◎	Be careful not to get oil on the tape path surface.
	Loading motor	-	☆	-	☆	-	☆	-	☆	-	☆	A-7040-065-A
	Control motor	-	☆	-	☆	-	☆	-	☆	-	☆	8-835-304-01
	Reel motor	-	☆	-	☆	-	☆	-	☆	-	☆	
Performance Check	Abnormal noise	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	
	Back tension measurement	-	☆	-	☆	-	☆	-	☆	-	☆	
	Brake system	-	☆	-	☆	-	☆	-	☆	-	☆	
	FWD, RVS torque measurement	-	☆	-	☆	-	☆	-	☆	-	☆	

Note: When performing an overhaul, refer to the items above when replacing parts.

Note: Regarding oil

- Be sure to use designated oil. (There is a danger of trouble occurring if a different viscosity is used.)
Oil: Parts No.7-661-018-18
(Mitsubishi Diamond Oil hydrofluid NT-68)
- Be sure to use clean oil when lubricating the shaft bearing, because there is a danger of wear and burning if dirty oil is used.
- One drop of oil means the amount which sticks to a 2 mm diameter rod, as shown in Fig. (See Fig. 7-5.)

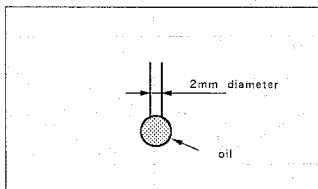



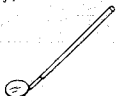
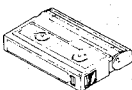
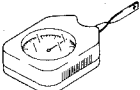


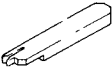


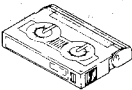
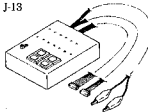
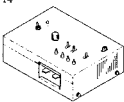
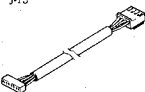
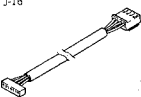


Fig. 7-5.

7-2.5. Service Jig Table

Ref. No.	Name	Part No.	Jig	Use Notes
J-1	Cleaning fluid	Y-2031-001-1		
J-2	Chamois cloth	2-034-697-00		
J-3	Head degausser	Commercially sold		
J-4	Small adjustment mirror, Spare mirror	J-6080-029-A J-6080-030-1	SL-5052	Tape path
J-5	Alignment tape (WR5-1C)	8-967-995-06		Tape path
J-6	Dial tension gauge	J-6080-827-A		torque measurement
J-7	Tension measurement reel	J-6080-831-A		with ϕ 30 tape
J-8	Tension measurement reel	J-6080-832-A		with ϕ 16 string
J-9	No.10 gear phase jig	J-6080-823-A	GD-2047	
J-10	Rotary drum jig	(packed with the repair rotary upper drum)		
J-11	No.6 guide lock screwdriver	J-6080-826-A		
J-12	FWD, RVS winding torque cassette	J-6080-824-A	GD-2086	
J-13	Mode selector	J-6080-825-A		for all models
J-14	Track shift jig	J-6080-891-A		Tape path
J-15	CTL connector connecting cord	J-6080-884-A		Tape path
J-16	RF/SWP connector connecting cord	J-6080-883-A		Tape path

Other equipment : • Oscilloscope
• Analog tester (20k Ω)

J-1 	J-2 	J-3 	J-4 
J-5 	J-6 	J-7 	J-8 
J-9 	J-10 (Packed with the rotary upper drum for repair) 	J-11 	J-12 
J-13 	J-14 	J-15 	J-16 

-3. MECHANICAL CHECK, ADJUSTMENT AND REPLACEMENT

- ote :
- Use the mode selector (Ref. No. J-13) for this mechanical check, adjustment and replacement.
 - The mode inside the is the mode set by pressing the mode selector button.
 - For recorder and player the same mechanism section is used.

-3-1. S Reel Table Assembly

Removal (See Fig. 7-6.)

- 1) Remove the cassette compartment assembly according to Section 2. DISASSEMBLY 2-15.
- 2) Set to **FF/REW** mode.
- 3) Remove screw ① and remove reel table stopper ②.
- 4) Remove the S reel table assembly ③.

Note : Be sure to hold the upper reel claw section when removing. (See Fig. 7-6.(Note))

Mounting (See Fig. 7-6.)

- 1) Put a half drop of oil on the upper point of shaft ④.
- 2) Move the S main brake assembly ⑤ in the direction of arrow.
- 3) Mount the S reel table assembly ③, being careful not to hit the tension regulator band assembly ⑥.
- 4) Mount the reel table stopper ② and tighten with screw ①.
- 5) Set to **LOADING/UNLOADING** mode.
- 6) Mount the cassette compartment assembly in opposite procedure of Section 2. DISASSEMBLY 2-15.

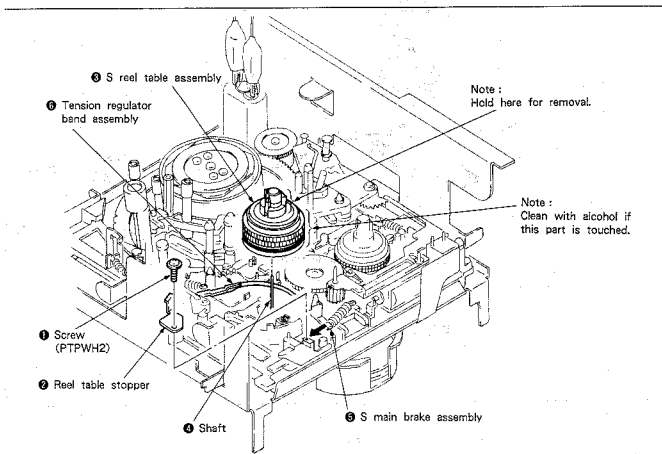


Fig. 7-6.

7-3.2. T Reel Table Assembly

1. Removal (See Fig. 7-7.)

- 1) Remove the cassette compartment assembly according to Section 2, DISASSEMBLY 2-15.
- 2) Set to **[UNLOADING WAIT]** mode.
- 3) Hook the spring ② on the T.S brake assembly ① to the claw of lock slider.
- 4) Remove the stopper washer ③ and remove the T.S brake assembly ①.
- 5) Set to **[EJECT]** mode.
- 6) Move drive gear B assembly ④ in the direction of the arrow.
- 7) Remove T reel table assembly ⑤.

Note: Be sure to hold the upper reel claw section when removing. (See Fig. 7-7. (Note))

2. Mounting (See Fig. 7-7.)

- 1) Put a half drop of oil on the upper point of shaft ⑥.
- 2) Move the drive gear B assembly ④ in the direction of the arrow. (Confirm **[EJECT]** mode.)
- 3) Mount the T reel table assembly ⑤.
- 4) Mount the T.S brake assembly ① and fix the stopper washer ③.
- 5) Hook the spring ② on the T.S brake assembly ① claw.
- 6) Set to **[LOADING TOP]**, **[LOADING/UNLOADING]** mode.
- 7) Mount the cassette compartment assembly in opposite procedure of Section 2, DISASSEMBLY 2-15.

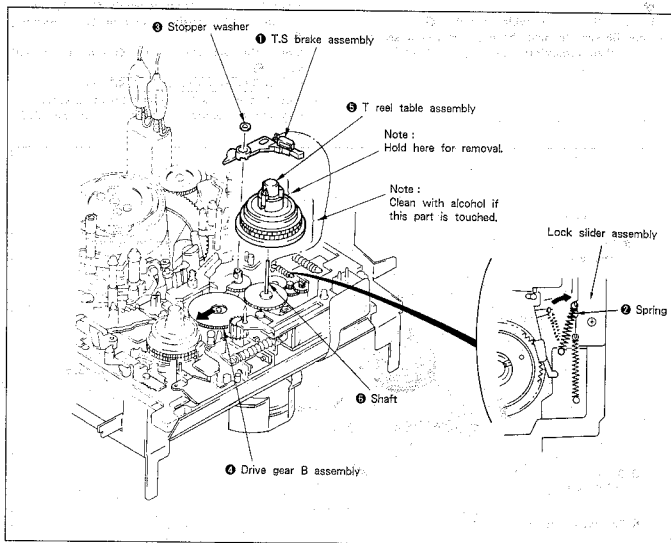


Fig. 7-7.

7-3. Pinch Press Arm Assembly

1. Removal (See Fig. 7-8.)

- 1) Hook the spring ① on the pinch press arm assembly ②.
- 2) Remove the stopper washer ③ and remove the pinch press arm assembly ②.

2. Mounting (See Fig. 7-8.)

- 1) Put a half drop of oil on the shaft ④.
- 2) Mount the pinch press arm assembly ② and fix the stopper washer ③.
- 3) Hook the spring ① on the spring hook assembly ⑤.

② Pinch press arm assembly
③ Stopper washer

② Pinch press arm assembly

① Spring

⑤ Spring hook assembly

④ Shaft

Fig. 7-8.

7-3.4. Tension Regulator Arm Assembly

1. Removal (See Fig. 7-9.)
 - 1) Remove the cassette compartment assembly according to Section 2. DISASSEMBLY 2-15.
 - 2) Change the spring position as described in 7-3-3. 1. Removal, 1). (See Fig. 7-8.)
 - 3) Remove spring ①. (Note its hooking position.)
 - 4) Remove screw ② and remove the spring hook assembly ③.
 - 5) Set to **FF/REW** mode.
 - 6) Remove the tension regulator band assembly claw ④.
 - 7) Remove the tension regulator arm assembly ⑤.
2. Mounting (See Fig. 7-9.)
 - 1) Put a half drop of oil on the shaft ⑥.
 - 2) Mount the tension regulator arm assembly ⑤, inserting the tension regulator load arm assembly pin ⑦ in the tension regulator arm assembly ⑤ cam groove (on the back).
 - 3) Mount the tension regulator band assembly claw ④. (Do not touch the band or change its shape.)
 - 4) Set to **LOADING/UNLOADING** mode.
 - 5) Mount the spring hook assembly ③ and tighten with screw ②.
 - 6) Replace spring ① in its original position and lock the screw.
 - 7) Hook the spring according to 7-3-3. 2. Mounting, 3).
 - 8) Mount the cassette compartment assembly in opposite procedure of Section 2. DISASSEMBLY 2-15.

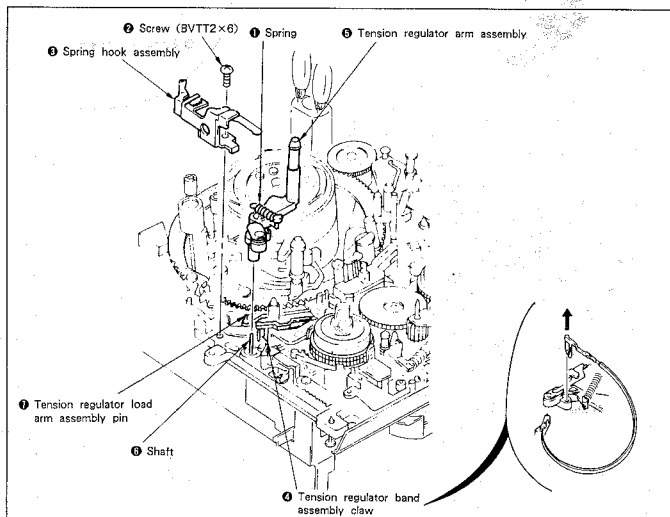


Fig. 7-9.

3-5. Tension Regulator Band Assembly

Removal (See Fig. 7-10.)

-) Remove the S reel table assembly according to 7-3-1, 1. Removal. (See Fig. 7-6.)
-) Remove the band arm claw ①.
-) Remove claw ② and remove the tension regulator band assembly ③.

2. Mounting (See Fig. 7-10.)

- 1) Mount the tension regulator band assembly ③. (Do not touch the band or change its shape.)
- 2) Fit on the band arm claw ①.
- 3) Mount the S reel table assembly according to 7-3-1, 2. Mounting. (See Fig. 7-6.)
- 4) Perform 7-3-21, FWD Back Tension Adjustment.

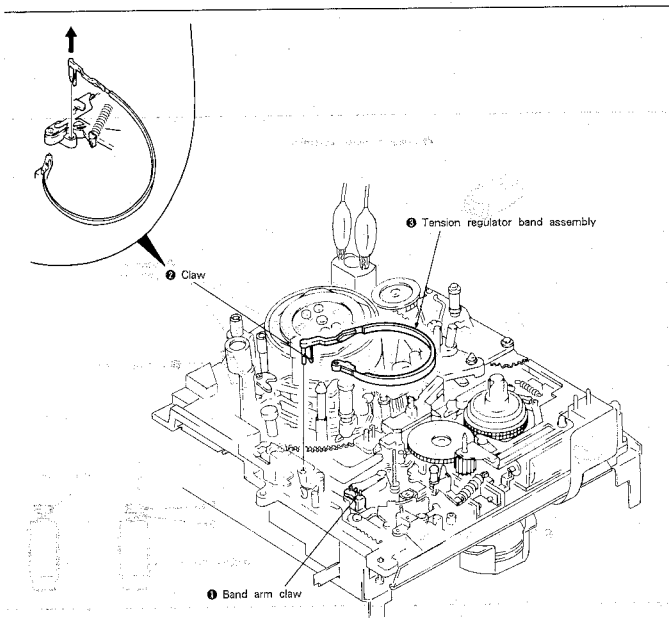


Fig. 7-10.

7-3-6. Loading Motor Assembly

1. Removal (See Fig. 7-11.)

- 1) Remove L motor belt ①.
- 2) Remove the CN302 connector (red) 2P ② from the RS-28 board.
- 3) Remove the two screws ③ and remove the loading motor assembly ④.

2. Mounting (See Fig. 7-11.)

- 1) Mount the loading motor assembly ④ and tighten with the two screws ③.
- 2) Connect CN302 connector (red) 2P ② to RS-28 board.
- 3) Mount L motor belt ①.

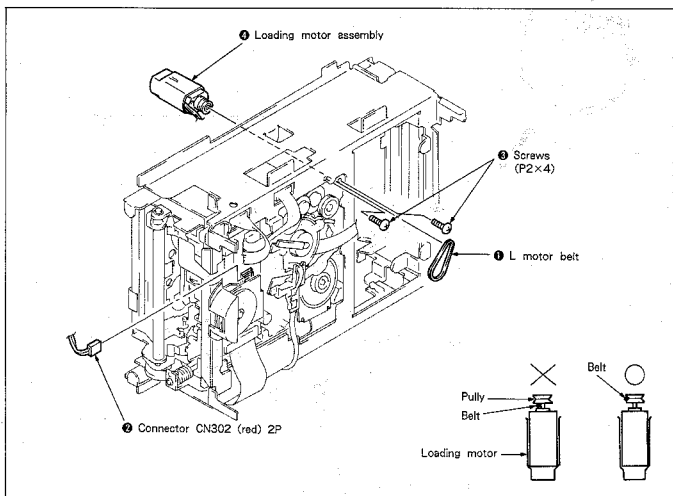


Fig. 7-11.

3-7. Threading Ring Assembly

Removal (See Fig. 7-12.)

- 1) Remove the cassette compartment assembly according to Section 2. DISASSEMBLY 2-15.
- 2) Operate the mode selector, and move the guide base assembly 1 until just before it locks, and the No.2 guide assembly 2 until just before it locks where the ring stopper 3 screw is visible. (Do not move threading ring assembly 4.)
- 3) Remove the stopper washer 4 and remove No.10 gear 5.

- 4) Remove screw 6, and remove the roller top plate 7 and ring roller 8.
- 5) Remove the two screws 9, and remove the ring stopper 3 and ring roller 10.
- 6) Remove the threading ring assembly 4 in the direction of arrow.

Note: Be careful that the threading ring assembly 4 does not touch the drum when it is removed.

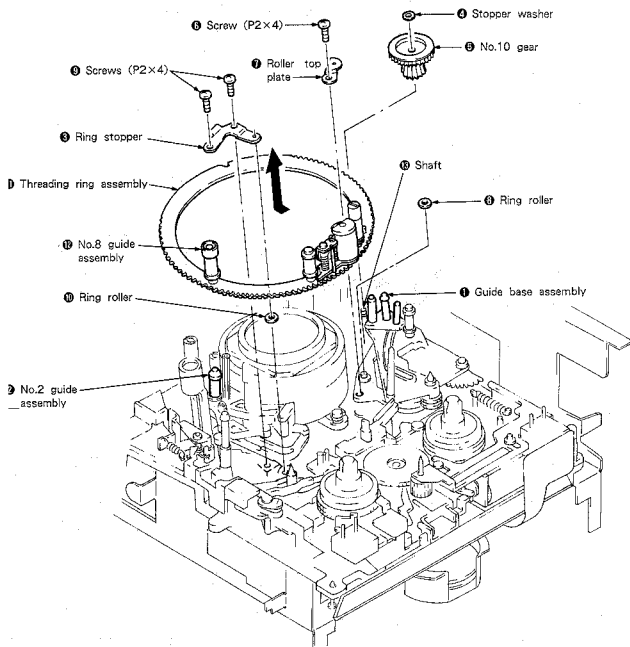


Fig. 7-12.

2. Mounting (See Fig. 7-12.)

- 1) Mount the threading ring assembly ⑪ so that it becomes in the unthreaded state (pinch roller arm assembly is on the front panel side.) (Confirm that is in the state in 1. Removal 2.)
- 2) Mount the ring roller ⑩ and ring stopper ③ and tighten with the two screws ⑥. (No.8 guide assembly ⑦ should be closer to the front panel than the ring stopper ③.)
- 3) Mount the ring roller ③ and roller top plate ⑦ and tighten with screw ⑥. (Confirm that the threading ring assembly matches the three ring rollers.)
- 4) Put a half drop of oil on the shaft ⑫.
- 5) Check that the protrusions on the drive changer assembly are in the indentations of the L-SW assembly and insert the No.10 gear phase alignment jig (Ref. No. J-9). (See Fig. 7-13.)
- 6) Mount No.10 gear ⑤ and fix stopper washer ④ while pushing the No.8 guide assembly ⑦ against the ring stopper ③.
- 7) Pull out the No.10 gear phase jig.
- 8) Set to LOADING TOP mode.
- 9) Mount the cassette compartment assembly in opposite procedure of Section 2. DISASSEMBLY 2-15.

Note: Be sure to perform 7-4. TAPE PATH ADJUSTMENT after mounting.

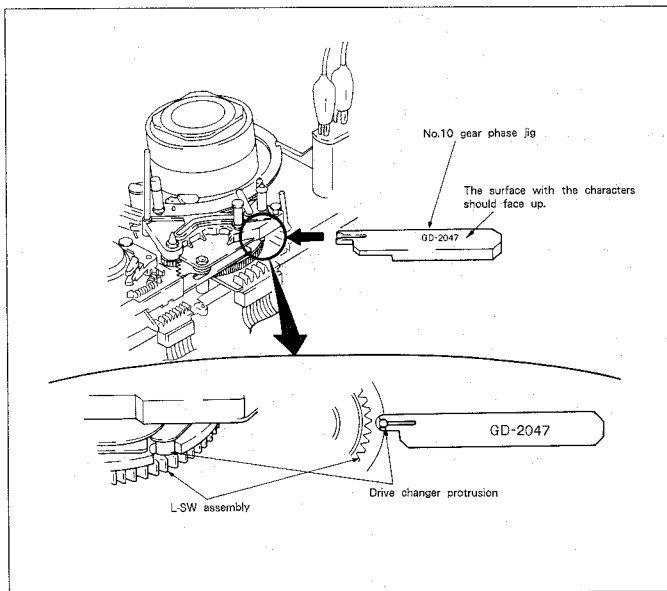


Fig. 7-13.

-3-8. Pinch Roller Assembly

Removal

-) Remove the threading ring assembly according to 7-3-7. 1. Removal. (See Fig. 7-12.)
-) Remove stopper washer ①. (See Fig. 7-14.)
-) Change the position of the spring ③ on No. 7 guide assembly ②. (See Fig. 7-15.)
-) Rotate pinch roller arm assembly ④ in the direction of arrow. (See Fig. 7-16.)
-) Remove pinch roller arm assembly ④ in the direction of arrow. (See Fig. 7-17.)
-) Remove spring ③. (See Fig. 7-18.)

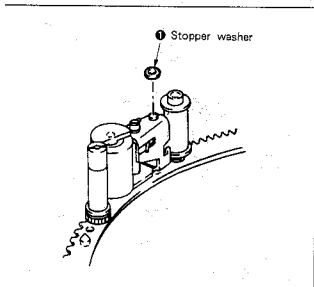


Fig. 7-14.

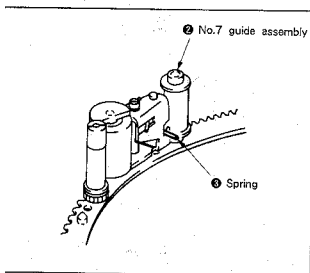


Fig. 7-15.

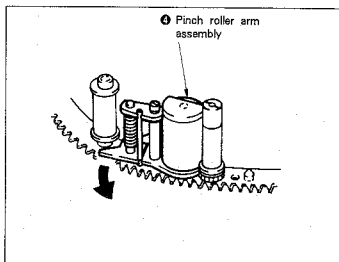


Fig. 7-16.

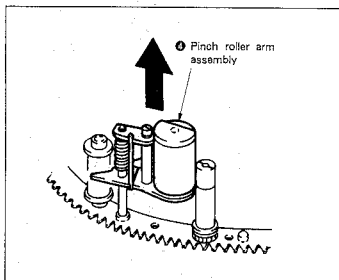


Fig. 7-17.

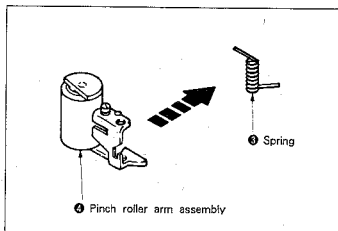


Fig. 7-18.

2. Mounting

- 1) Hook spring ③. (See Fig. 7-19.)
- 2) Insert the end of the clip ⑤ or another thin rod inside the pinch roller arm assembly hole ⑥. (See Figs. 7-20, and 7-21.)
- 3) Put the end of the clip ⑤ to the threading ring assembly shaft ⑦ and mount the pinch roller arm assembly ④. (See Figs. 7-22, and 7-23.)
- 4) Hook the spring ③ on No.7 guide assembly ②. At this time, confirm that the spring ③ is hooked onto section A. (See Fig. 7-24.)
- 5) Fix the stopper washer ①. (See Fig. 7-25.)
- 6) Mount the threading ring assembly according to 7-3-7, 2. Mounting. (See Figs. 7-12, and 7-13.)

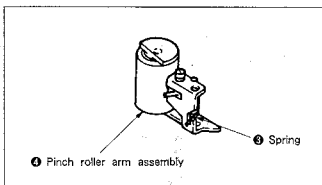


Fig. 7-19.

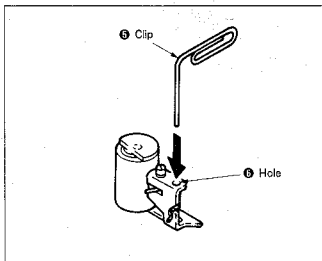


Fig. 7-20.

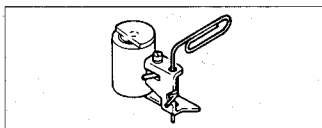


Fig. 7-21.

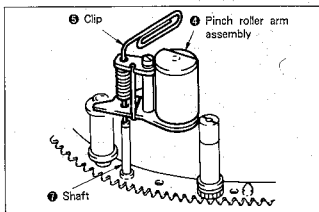


Fig. 7-22.

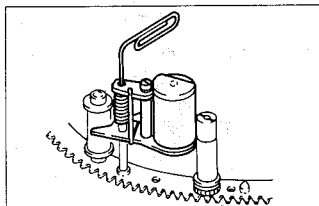


Fig. 7-23.

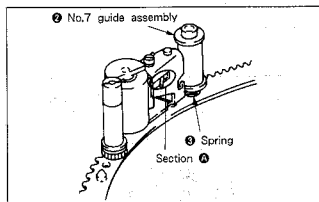


Fig. 7-24.

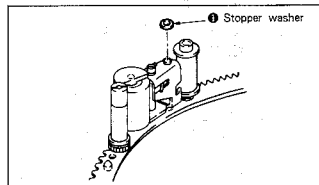


Fig. 7-25.

3-9. Slant Guide Block Assembly

Removal (See Fig. 7-26.)

- > Remove the cassette compartment assembly according to Section 2. DISASSEMBLY 2-15.
- > Remove the threading ring assembly according to 7-3-7. 1. Removal. (See Fig. 7-12.)
- > Remove screw ① and E ring ②.
- > Remove the slant guide block assembly ③.

Mounting

- > Operate the mode selector, and line up the right edge of the L slider assembly and the right edge of the lock slider assembly. (See Fig. 7-27.)
- > Set the slant guide block assembly guide base assembly in unthreaded state (guide base assembly is on front panel side) and mount. (See Fig. 7-28.)

Note: At this time, confirm the engagement position of the slant guide drive gear and L slider assembly gear. (See Fig. 7-27.)

- > Insert the E ring ② and tighten with screw ①. (See Fig. 7-26.)
- > Put in the state in 7-3-7. 1. Removal, 2).
- > Mount the threading ring assembly according to 7-3-7. 2. Mounting. (See Figs. 7-12. and 7-13.)
- > Mount the cassette compartment assembly in opposite procedure of Section 2. DISASSEMBLY 2-15.

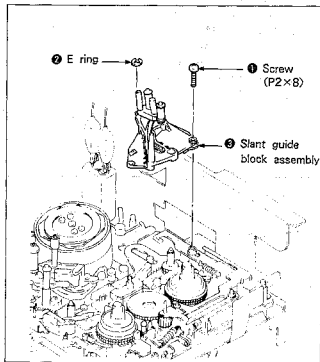


Fig. 7-26.

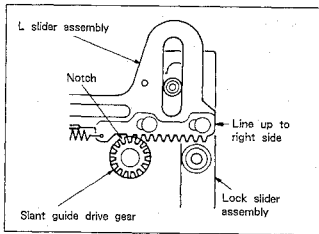


Fig. 7-27.

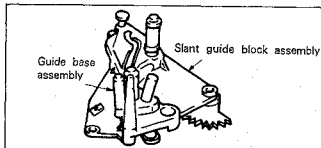


Fig. 7-28.

**7-3-10. Entrance Guide (P) Assembly
(No. 2 Guide Assembly)**

1. Removal (See Fig. 7-29.)

- 1) Turn the rotary upper drum counterclockwise and remove the head section from the entrance guide (P) assembly ①.
- 2) Remove screw ② and the drum guard screw ③.
- 3) Remove guide nut ④, and remove guide flange ⑤, guide ⑥ and compression spring ⑦.
- 4) Remove the entrance guide (P) assembly ①.

2. Mounting (See Fig. 7-29.)

- 1) Confirm that **LOADING TOP** mode is set.
- 2) Engage the entrance guide (P) assembly and L slider assembly with their flat portions A and B as shown.
- 3) Mount the coil spring ⑦, guide ⑥ and guide flange ⑤ in that order and then temporarily tighten the guide nut ④.
- 4) Tighten screw ② and the drum guard screw ③.

Note: Be sure to perform 7-4. TAPE PATH ADJUSTMENT after mounting.

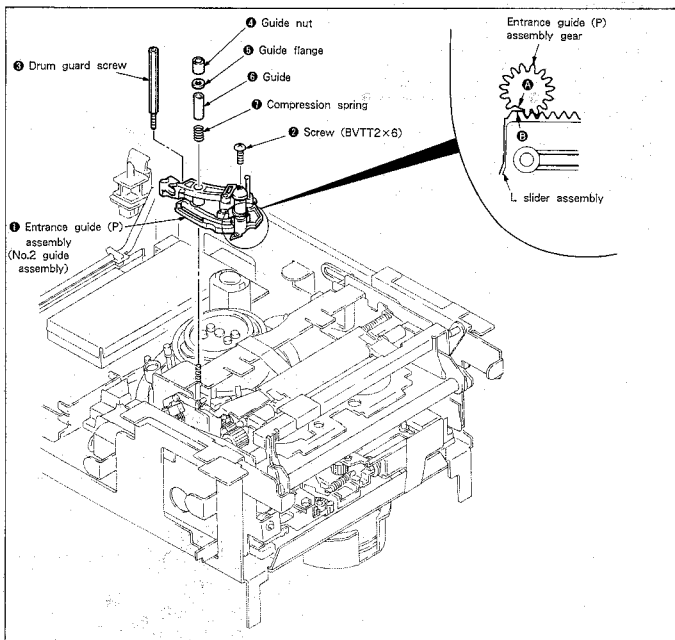


Fig. 7-29.

-11. L Slider Assembly

Removal (See Fig. 7-30.)

Remove the slant guide block assembly according to 7-3-9, 1. Removal.

Remove the entrance guide (P) assembly according to 7-3-10, 1. Removal.

Set to **DRUM START** mode.

Remove slant guide drive gear ①.

Remove the tension regulator load arm assembly ② pin from the cam groove of the tension regulator arm assembly. (See 7-3-4. Tension Regulator Arm Assembly.)

Remove the two stopper washers ③.

Remove the L slider assembly ⑤ while pushing the RL arm assembly protrusion ④ in the direction of arrow.

Remove the stopper washer ⑥ and remove the tension regulator load arm assembly ②.

Mounting

Grease. (See Fig. 7-31.)

Mount the tension regulator load arm assembly ② and fix the stopper washer ③.

Mount the L slider assembly ⑤ while pushing the RL arm assembly protrusion ④ in the direction of the arrow.

Fix the two stopper washers ③. (See Fig. 7-30.)

Put the tension regulator load arm assembly ② pin into the M slider groove. (See 7-3-15. M Slider.)

Refer to 7-3-4, 2. Mounting, 2), and insert the tension regulator load arm assembly ② pin in the tension regulator arm assembly cam groove. (See 7-3-4. Tension Regulator Arm Assembly.)

By operating the mode selector, match the right edge of the L slider assembly and that of the lock slider assembly. (See 7-3-9, 2. Mounting, 1).

Engage the slant guide drive gear ① so that the notch is 1 tooth away from the L slider assembly left side tooth. (See Fig. 7-32.)

Mount the entrance guide (P) assembly according to 7-3-10, 2. Mounting.

Mount the slant guide block assembly according to 7-3-9, 2. Mounting.

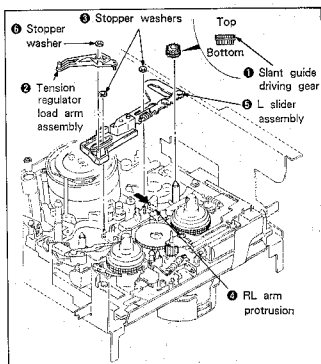


Fig. 7-30.

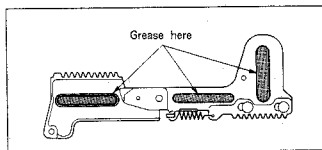


Fig. 7-31.

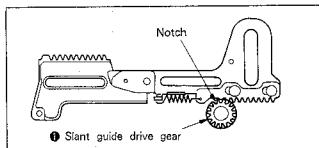


Fig. 7-32.

7-3-12. L-SW Assembly

1. Removal (See Fig. 7-33.)

- 1) Remove the L slider assembly according to 7-3-11. 1. Removal.
- 2) Remove lock slider retainer ①.
- 3) Remove screw ② and lock slider A ③.
- 4) Remove stopper washer ④ and remove torsion spring ⑤.
- 5) Remove drive change assembly ⑥.
- 6) Remove connector ⑦.
- 7) Remove the two screws ⑧ and remove the L-SW assembly ⑨.

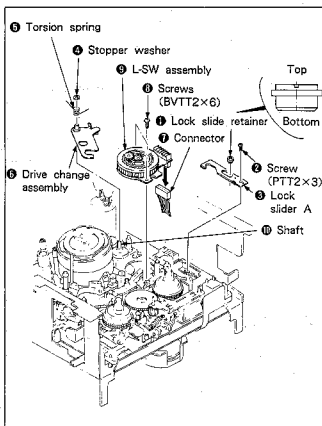


Fig. 7-33.

2. Mounting (See Fig. 7-33)

- 1) Put a half drop of oil on the L-SW assembly ⑨ shaft (planetary roller shaft).
- 2) Mount L-SW assembly ⑨ and tighten with the two screws ⑧.
- 3) Connect connector ⑦.
- 4) Operate the mode selector and confirm that the L-SW assembly ⑨ rotates.
- 5) Put a half drop of oil on the shaft ⑩.
- 6) Grease the drive changer assembly ⑥. (See Fig. 7-34.)
- 7) Mount the drive changer assembly ⑥. (See Fig. 7-33.)
- 8) Hook the torsion spring ⑤ and fix the stopper washer ④.
- 9) Operate the mode selector and confirm that the L-SW assembly ⑨ rotates.
- 10) Mount lock slider A ③ and tighten with screw ②.
- 11) Mount lock slider retainer ①.
- 12) Operate the mode selector and set to the position in Fig. 7-35.
- 13) Mount the L slider assembly according to 7-3-11. 2. Mounting.

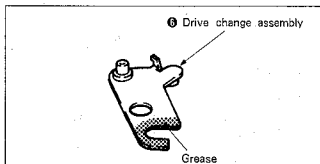


Fig. 7-34.

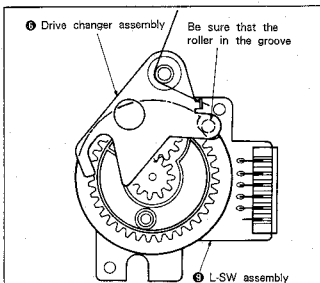


Fig. 7-35.

3-13. Plunger Solenoid

Removal (See Fig. 7-36.)

- 1) Remove the cassette compartment assembly according to Section 2, DISASSEMBLY 2-15.
- 2) Remove the T reel table assembly according to 7-3-2.
- 3) Remove spring ①.
- 4) Remove the screw ② according to 7-3-12, 1. Removal, 3).
- 5) Remove the two stopper washers ③.
- 6) Remove the lock slider assembly ④.
- 7) Unsolder plunger solenoid ⑤ at three places.
- 8) Remove the two screws ⑥ and the plunger solenoid ⑤.

2. Mounting (See Fig. 7-36.)

- 1) Insert the plunger solenoid pin ⑦ into the P arm hole ⑧ and mount with the two screws ⑥.
- 2) Solder pins of plunger solenoid ⑤ at three places.
- 3) Mount lock slider assembly ④.
- 4) Fix the two stopper washers ③.
- 5) Fix the screw ② according to 7-3-12, 2. Mounting, 10).
- 6) Hook the spring ①.
- 7) Mount the T reel table assembly according to 7-3-2, 2. Mounting.
- 8) Mount the cassette compartment assembly in opposite procedure of Section 2. DISASSEMBLY 2-15.

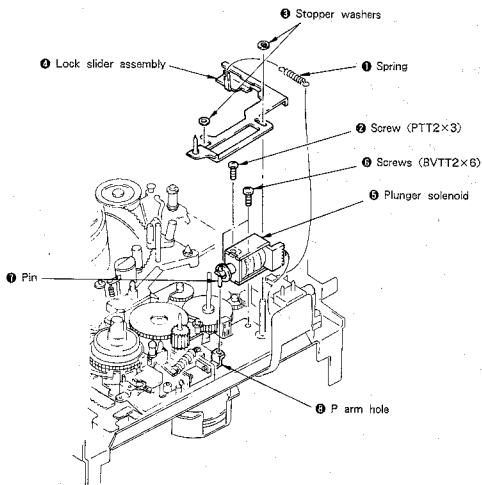


Fig.7-36.

7-3-14. M-SW Assembly

1. **Removal (See Fig. 7-38.)**
- 1) Remove CN301 connector (white) 2P from the RS-28 board and lengthen the wiring which comes outside.
- 2) Remove the T reel table assembly according to 7-3-2.
- 3) Remove stopper washer ① and remove the drive gear B assembly ②.
- 4) Remove the LD-1 board ③. (See Fig. 7-37.)
- 5) Remove lock slider according to 7-3-13. 1. Removal, 3) to 6).
- 6) Remove the spring ④ and remove B release arm assembly ⑤.
- 7) Confirm **EJECT** mode.
- 8) Remove stopper washer ⑥ and remove the mode output gear ⑦.
- 9) Remove screw ⑧.
- 10) Unsolder the RECOG switch ⑨ in three places, and remove it.
- 11) Disconnect connector ⑩.
- 12) Remove the three screws ⑪, and remove the control motor cover assembly ⑫.
- 13) Push the T.S release arm assembly ⑬ in the direction of arrow ⑭ while holding up the M-SW assembly ⑭. And then, push the T main brake assembly ⑮ in the direction of arrow ⑯ and remove the M-SW assembly ⑭.
- 14) Remove solder ⑰ and remove the control motor ⑱.

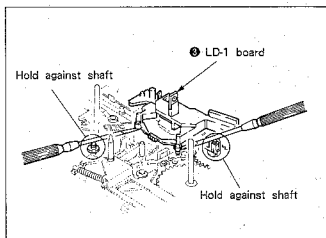


Fig. 7-37.

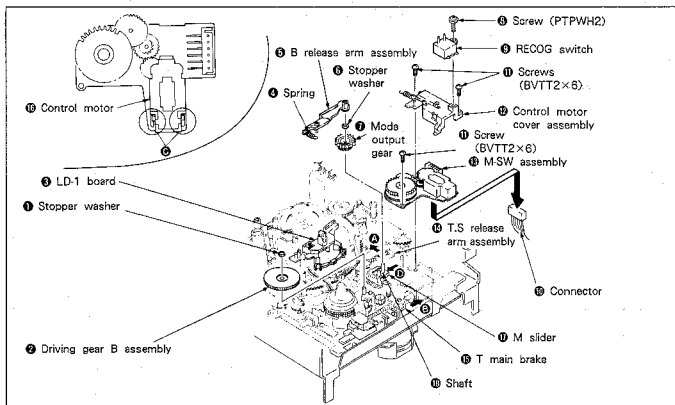


Fig. 7-38.

Mounting (See Fig. 7-38.)

Solder the control motor ⑩.

Mount the M-SW assembly in opposite procedure of 7-3-14. 1. Removal, 13).

Mount the control motor cover assembly ⑫, and tighten with the three screws ⑬.

Connect the connector ⑭.

Solder the terminals of the RECOG switch ⑪ in three places.

Mount the RECOG switch ⑪ and tighten with screw ⑮.

Confirm **EJECT** mode.

Confirm that M slider ⑦ is moved fully in the direction of arrow ⑯.

Put a half drop of oil on the shaft ⑩.

- i) Mount the mode output gear ⑧ so that the positioning holes are lined up. (See Fig. 7-39.)

11) Fix stopper washer ⑥.

12) Set to **LOADING/UNLOADING** mode.

13) Mount B release arm assembly ⑤ and hook spring ⑦.

14) Mount the lock slider assembly according to 7-3-13. 2. Mounting, 3) to 6).

15) Mount the LD-1 board ③.

16) Mount drive gear B assembly ② and fix stopper washer ⑥.

17) Mount the T reel table assembly according to 7-3-2. 2. Mounting.

18) Connect the CN301 connector (white) 2P to the RS-28 board.

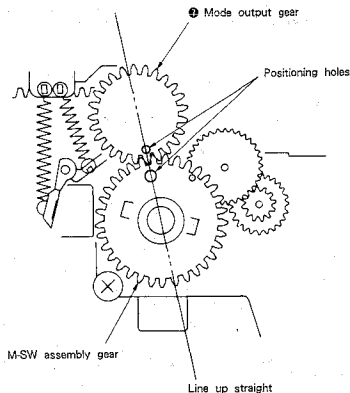


Fig. 7-39.

7-3-15. M Slider

1. Removal (See Fig. 7-40.)

- 1) Remove the S reel table assembly according to 7-3-1. 1. Removal. (See Fig. 7-6.)
- 2) Remove the T reel table assembly according to 7-3-2. 1. Removal. (See Fig. 7-7.)
- 3) Remove the pinch press arm assembly according to 7-3-3. 1. Removal. (See Fig. 7-8.)
- 4) Remove the tension regulator arm assembly according to 7-3-4. 1. Removal. (See Fig. 7-9.)
- 5) Remove the tension regulator band assembly according to 7-3-5. 1. Removal. (See Fig. 7-10.)
- 6) Remove the threading ring assembly according to 7-3-7. 1. Removal. (See Fig. 7-12.)
- 7) Perform 7-3-14. 1. Removal, 1) to 6).
- 8) Remove the tension regulator load arm assembly according to 7-3-11. 1. Removal, 8). (See Fig. 7-30.)
- 9) Remove spring ①.
- 10) Remove the two stopper washers ② and remove the S main brake assembly ③ and the T main brake assembly ④.
- 11) Set to LOADING TOP and LOADING/UNLOADING modes.
- 12) Remove screw ⑤ and the driving complete assembly ⑥.
- 13) Perform 7-3-14. 1. Removal, 7) and 8).
- 14) Remove the two springs ⑦.
- 15) Remove REW brake assembly ⑧, and remove the REW brake spacer ⑨.
- 16) Remove stopper washer ⑩ and remove the B release slider ⑪.
- 17) Remove stopper washer ⑫, and remove the spring ⑬ and RL arm ⑭.
- 18) Move the M slider ⑮ to the right. (Leave about 5 mm at the left.)
- 19) Remove the E ring ⑯ and remove the pinch press lever assembly ⑰.
- 20) Remove spring ⑱ and remove the hard brake S ⑲.
- 21) Remove stopper washer ⑳, push the mode arm ㉑ in the direction of arrow, and lift up the left side of the M slider ㉒ to remove.

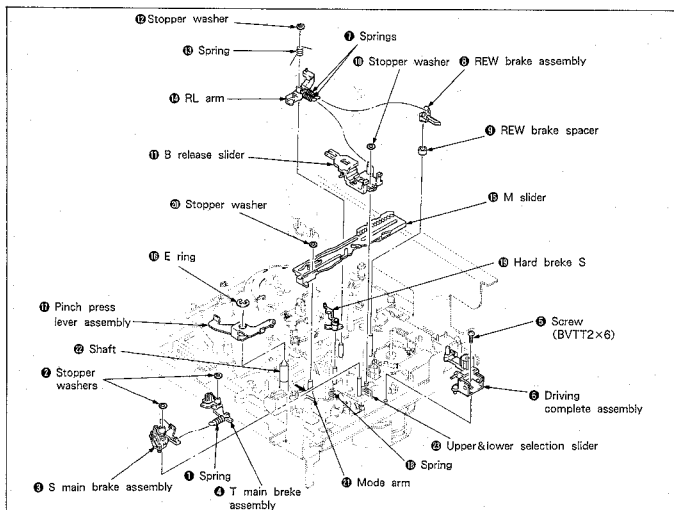


Fig. 7-40.

Mounting (See Fig. 7-40.)

- 1) Grease. (See Fig. 7-41.)
- 2) Push mode arm ② in the direction of arrow ④, and mount the M slider ⑤, noting the positioning of the other parts as shown in Fig. 7-42, and fix the stopper washer ⑩.
- 3) Mount hard brake S ⑪ and hook spring ⑬.
- 4) Grease. (See Fig. 7-43.)
- 5) Put a half drop of oil from the shaft ⑫ groove to the bottom, mount the pinch press lever assembly ① and insert the E ring ⑨.
- 6) Mount RL arm ⑧, hook the spring ⑥ and fix the stopper washer ⑦.
- 7) Mount B release slider ④ and fix stopper washer ⑩.
- 8) Mount REW brak spacer ③ and REW brake assembly ②.
- 9) Hook the two springs ①.

Note: Hook the two springs as follows, being careful not to mix them up.

- B release slider spring: total diameter 2 mm, wire diameter 0.18 mm
- REW brake assembly spring: total diameter 1.6 mm, wire diameter 0.12 mm

- 10) Move the M slider ⑤ to the left fully.
- 11) Set to **REJECT** mode.
- 12) Perform 7-3-14, 2. Mounting, 9), 10) and 11).
- 13) Set to **LOADING/UNLOADING** mode.
- 14) Insert the driving complete assembly ⑥ horizontal shaft into the upper & lower selection slider ② groove and mount with screw ⑤.
- 15) Mount the T main brake assembly ④ and S main brake assembly ③. Fix the two stopper washers ② and hook the spring ①.
- 16) Mount the tension regulator load arm assembly according to 7-3-11, 2. Mounting, 2).
- 17) Perform 7-3-14, 2. Mounting, 13) to 18).
- 18) Mount the threading ring assembly according to 7-3-7, 2. Mounting.
- 19) Mount the tension regulator band assembly according to 7-3-5, 2. Mounting.
- 20) Mount the tension regulator arm assembly according to 7-3-4, 2. Mounting.
- 21) Mount the pinch press arm assembly according to 7-3-3, 2. Mounting.
- 22) Mount the T reel table assembly according to 7-3-2, 2. Mounting.
- 23) Mount the S reel table assembly according to 7-3-1, 2. Mounting.

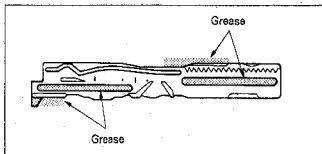


Fig. 7-41.

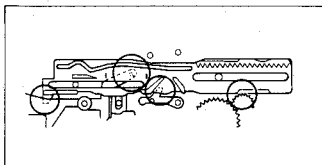


Fig. 7-42.

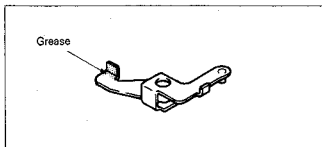


Fig. 7-43.

7-3-16. Capstan Motor Assembly

1. Removal (See Fig. 7-44.)

- 1) Remove the threading ring assembly according to 7-3-7. 1. Removal. (See Fig. 7-12.)
- 2) Remove the screw ① and remove the wire holder ②.
- 3) Remove the screw ③ and remove the gear base ④.
- 4) Remove the flexible connector ⑤.
- 5) Remove the two screws ⑥ and remove the capstan motor assembly ⑦ in the direction of arrow.

2. Mounting (See Fig. 7-44.)

- 1) Mount capstan motor assembly ⑦ and tighten with the two screws ⑥.
- 2) Connect the flexible connector ⑤.
- 3) Mount the gear base ④ and tighten with screw ③.
- 4) Mount the wire holder ② and tighten with the screw ①.
- 5) Arrange the wires using the wire holder.
- 6) Mount the threading ring assembly according to 7-3-7. 2. Mounting. (See Fig. 7-12.)

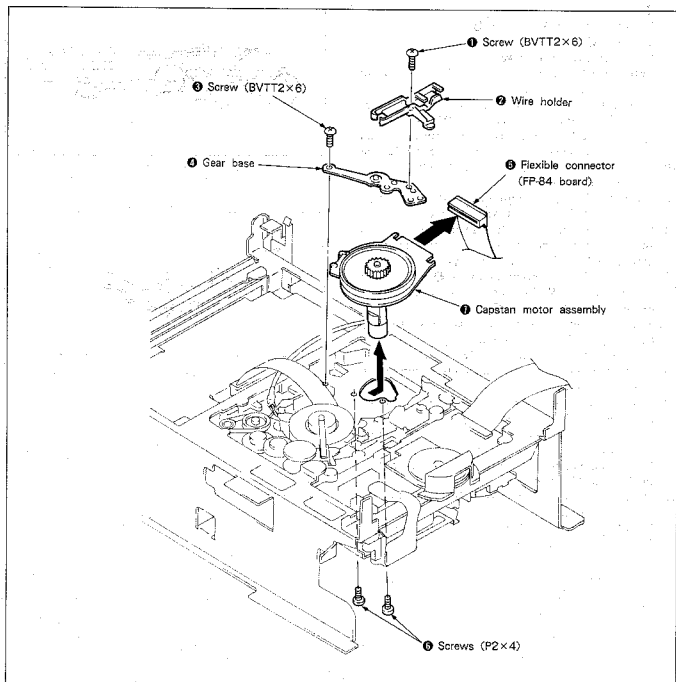


Fig. 7-44.

7-3-17. Replacement of Rotary Upper Drum

1. Removal

- 1) Remove the two hexagonal bolt screws ① and remove the dynamic damper ②. (See Fig. 7-45.)
- 2) Remove all eight solders in section A and confirm that the board and the pins on the bottom can move freely, using tweezers or the like. (See Fig. 7-45.)
- 3) Remove the two hexagonal bolt screws ③. (See Fig. 7-45.)
- 4) Mount the supplied jig ⑤ (Ref. No. J-10) on the dynamic damper mounting hole with the two supplied screws ④, and mount the supplied hexagonal bolt screw ⑥ on supplied jig ⑤, then remove the rotary upper drum ⑦. (See Fig. 7-46.)

• Repair rotary upper drum assembly
DGR-12-R A-7049-121-A

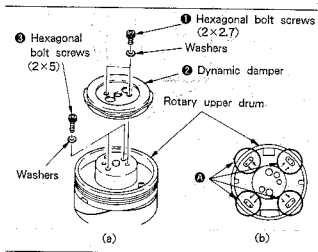


Fig. 7-45.

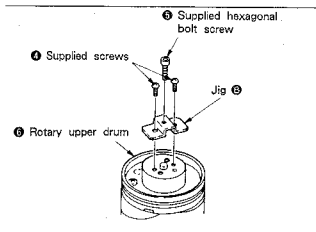


Fig. 7-46.

2. Mounting

- 1) Clean the flange surface and the surface of the rotary upper drum which contacts it, and confirm that there is no dirt or scratches.
- 2) Use jig ⑥ (Ref. No. J-10) to line up rotary upper drum ⑦ and the positioning hole ⑧, and lightly insert the rotary upper drum. At this time, confirm that the pins stick up the hole of rotary upper drum board. Fix with tweezers if the pins catch. (See Fig. 7-47.)
- 3) Remove jig ⑥ and push the rotary upper drum in by hand, lightly. (See Fig. 7-48.) When it is not inserted all the way, tighten the two hexagonal bolt screws ① alternately to temporarily fix it.
- 4) Insert jig ⑥ into the positioning hole ⑧ again and confirm that it goes in smoothly. If not, loosen the two hexagonal bolt screws ① and adjust it by inserting a clock screwdriver into the hole.
- 5) Tighten the two hexagonal bolt screws ①.
Note: Be careful not to tighten too much.
- 6) Solder the pins in section A. (See Fig. 7-45.)
Note: Be careful that the solder does not go under the board.
- 7) Mount the dynamic damper ② with the two hexagonal bolt screws ①. (See Fig. 7-45.)
Note: • Be careful not to tighten too much.
• Be careful not to mix up the hexagonal bolt screws ① (2x2.7) and ③ (2x5).

Note: After mounting, be sure to perform 7-4. TAPE PATH ADJUSTMENT.

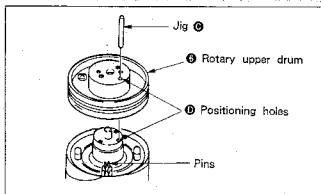


Fig. 7-47.

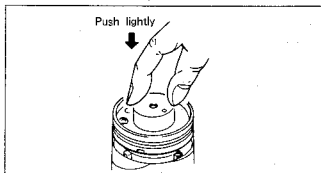


Fig. 7-48.

[Notes on drum assembly and rotary upper drum mounting]

1. When mounting the drum assembly with a magnetized screwdriver, mount with the head tip in the position shown below to prevent it from being affected by the screwdriver.
2. Be sure to perform TAPE PATH ADJUSTMENT after mounting.

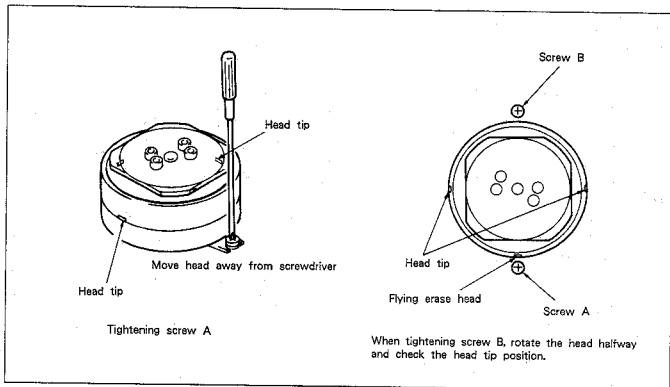


Fig. 7-49.

7-3-18. Replacement of Drum Assembly

1. Removal (See Figs. 7-50. and 7-51.)

- 1) Remove the screw ① and remove the shaft ground terminal ②. (See Fig. 7-50.)
- 2) Remove the flexible connector ③ from the FR-30P board.
- 3) Disconnect the two connectors ④.
- 4) Remove the two screws ⑤ and remove the drum assembly ⑥.

Note : At this time, be careful that the drum assembly does not hit No.3 guide, etc.

2. Mounting (See Figs. 7-50. and 7-51.)

- 1) Mount the drum assembly ⑥ and tighten with the two screws ⑤.
- 2) Connect the flexible connector ③ to the FR-30P board.
- 3) Connect the two connectors ④.
- 4) Mount the shaft ground terminal ② and tighten with the screw ①.

ote : Be sure to perform 7-4. TAPE PATH ADJUSTMENT after mounting.

• Repair drum assembly

DGH-12D-R A-7048-102-A

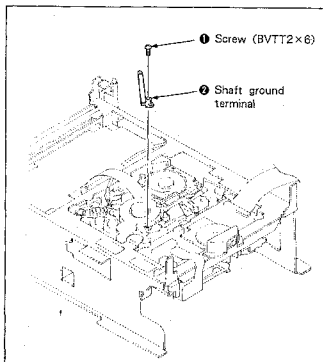


Fig. 7-50.

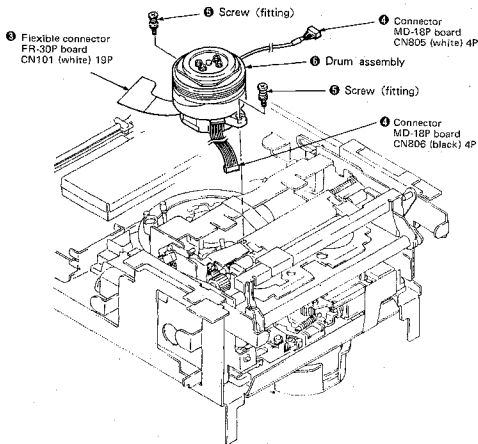


Fig. 7-51.

7-3-19. Adjustment after Replacement of No.3 Guide and No.4 Guide

For replacement of both No.3 and No.4 guides, line up the tape along the upper flange after replacing. (See Fig. 7-91.)

7-3-20. No.5 Guide Assembly

1. Removal (See Fig. 7-52.)

- 1) Remove the three screws ① and remove the No.5 guide assembly.
- 2) Remove the guide nut ⑦ and remove No.5 guide boss ③.
- 3) Remove the No.5 guide flange ④, No.5 guide ⑤ and spring ⑥.

2. Mounting (See Fig. 7-52.)

- 1) Mount the spring ⑥, No.5 guide ⑤ and No.5 guide flange ④ with No.5 guide shaft ⑦.
- 2) Mount the No.5 guide boss ③ and tighten the guide nut ⑦.
- 3) Mount the No.5 guide assembly and tighten with the three screws ①.

Note: Be sure to perform 7-4. TAPE PATH ADJUSTMENT after mounting.

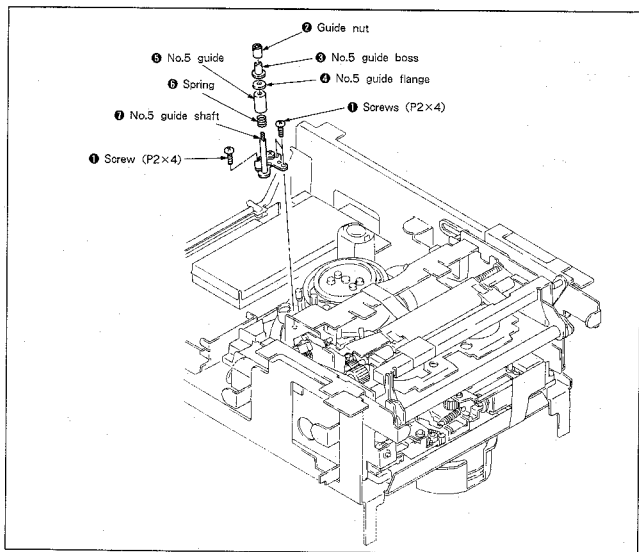


Fig. 7-52.

7-3-21. FWD Back Tension Adjustment
(See Fig. 7-53.)

- 1) Remove the cassette compartment assembly according to Section 2. DISASSEMBLY 2-15.
- 2) Set to **LOADING END**, **FWD** mode.
- 3) Loosen band adjustment plate ① screw ② and adjust as shown by arrow ③ so that the tension regulator arm assembly slit ④ and tension regulator arm assembly pin ⑤ are positioned as shown, and tighten screw ②.
- 4) Place tension measurement reel (Ref. No. J-7) ⑥ on the S reel table assembly ⑦ and fix the tape along No.1 guide, No.2 guide, No.3 guide and the drum.
- 5) Pull dial tension gauge (Ref. No. J-6) ⑧ in the direction of arrow ⑨ and hook the spring ⑩ onto the tension regulator spring hook assembly ⑪ so that the value becomes 12.5 ± 1 g, as shown below.
Value too large : arrow ⑩ direction
Value too small : arrow ⑨ direction

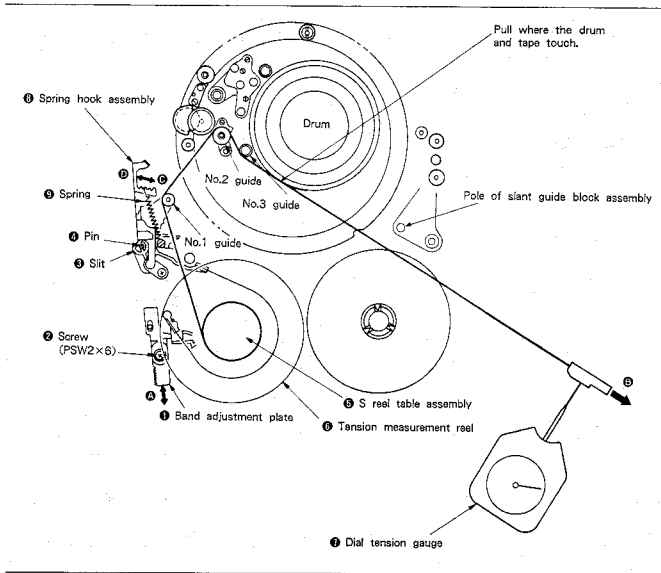


Fig. 7-53.

7-3-22. Mounting of Block Plate (See Fig. 7-54.)

- 1) Push the lock slider ① in the direction of arrow and lift up the cassette holder ②.
- 2) Confirm that the lock lever ③ is at the position shown in Fig. A in relation to Pin ④.
- 3) Rotate the worm gear ⑤ in the direction of arrow A, so that gear B ⑥ and gear C ⑦ are engaged.
- 4) Tighten the three screws ⑪ of the block plate sub assembly ⑩ and the bracket (LEFT) ⑫ while confirming that Pin ③ of the gear lever assembly is in position shown in Fig. B in relation to lock lever ③.
- 5) Confirm that gear C ⑦ and gear D ⑬ are engaged.

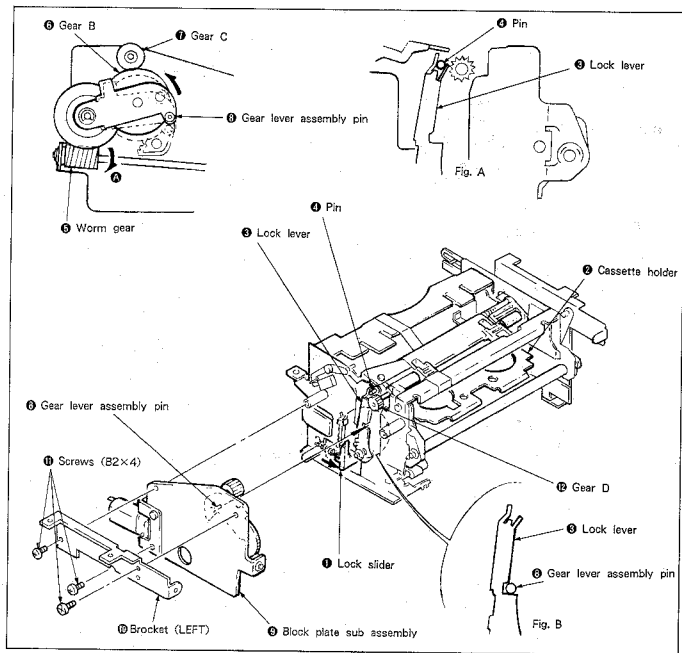


Fig. 7-54.

**7-3-23. Adjustment of Cassette Holder Section
Twistin (See Fig. 7-55.)**

• Perform this adjustment when the following symptoms occur :

Symptoms: The cassette comes into contact with the holder assembly ④ or joint assembly ⑤, etc., when inserted or ejected, and does not move smoothly.

- 1) Remove the cassette compartment assembly according to Section 2, DISASSEMBLY 2-15.
- 2) Remove the two screws ① and remove the bracket (RIGHT) ②.
- 3) Loosen screw ③.
- 4) Adjust so that there is no gap between cassette holder assembly ④ and reinforcement ⑤ (section ③).
- 5) Tighten screw ③.
- 6) Apply a screw locking compound to screw ③.
- 7) Mount the cassette bracket (RIGHT) ② and tighten with two screws ①.
- 8) Mount the cassette compartment assembly in opposite procedure of Section 2, DISASSEMBLY 2-15.

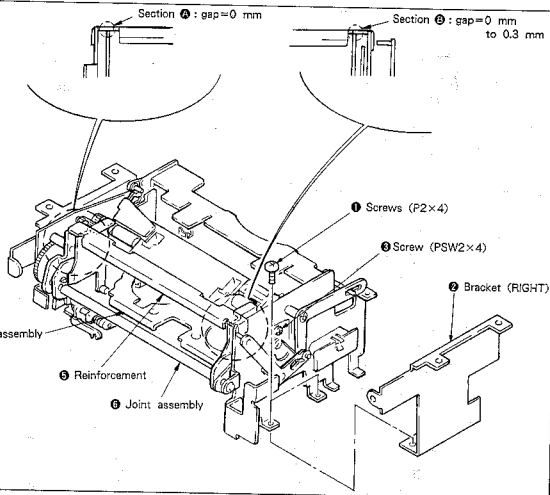


Fig. 7-55.

7-3-24. Check of S and T Main Brake Torque

- 1) Remove the cassette compartment assembly according to Section 2, DISASSEMBLY 2-15.

1. S main brake torque (See Figs. 7-56. and 7-57.)

- 1) Set to **FF/REW** mode.
- 2) Place the tension measurement reel (Ref. No. J-8) on the S reel table.
- 3) Pull the dial tension gauge (Ref. No. J-6) in the direction of the arrow and confirm that the specifications are satisfied.

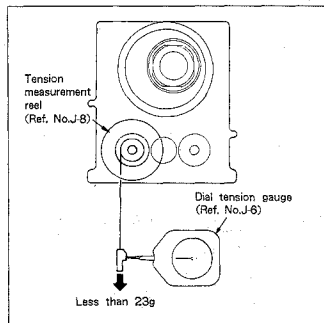


Fig. 7-56.

2. T main brake torque (See Figs. 7-58. and 7-59.)

- 1) Set to **FF/REW** mode.
- 2) Place the tension measurement reel (Ref. No. J-8) on the T reel table.
- 3) Pull the dial tension gauge (Ref. No. J-6) in the direction of the arrow and confirm that the specifications are satisfied.

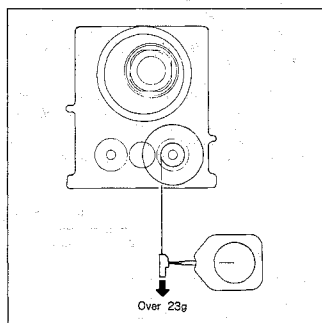


Fig. 7-58.

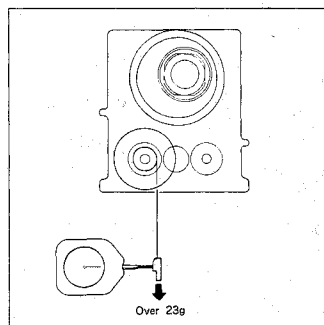


Fig. 7-57.

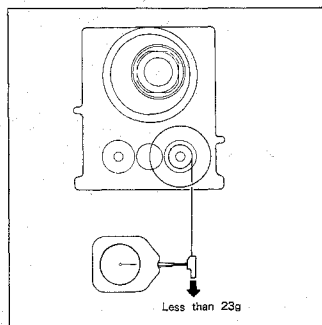


Fig. 7-59.

7-3-25. Check of S and T Soft Brake Torque

- 1) Remove the cassette compartment assembly according to Section 2, DISASSEMBLY 2-15.

1. S soft brake torque (See Fig. 7-60.)

- 1) Set to **FF/REW** mode.
- 2) Place the tension measurement reel (Ref. No. J-8) on the S reel table.
- 3) Release the S main brake with a finger.
- 4) Pull the dial tension gauge (Ref. No. J-6) in the direction of the arrow and confirm that the specifications are satisfied.

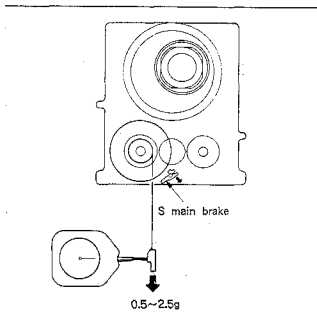


Fig. 7-60.

2. T soft brake torque (See Fig. 7-61.)

- 1) Set to **REV** mode.
- 2) Place the tension measurement reel (Ref. No. J-8) on the T reel table.
- 3) Release the T main brake with a finger.
- 4) Pull the dial tension gauge (Ref. No. J-6) in the direction of the arrow and confirm that the specifications are satisfied.

Note: In REV mode, both T soft brake and REW brake are operated.

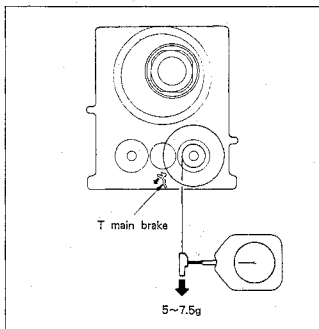


Fig. 7-61.

7-3-26. Check of REV and REW Brake Torque

- 1) Remove the cassette compartment assembly according to Section 2. DISASSEMBLY 2-15.

1. REV brake torque (See Fig. 7-62.)

- 1) Set to **REV** mode.
- 2) Place the tension measurement reel (Ref. No. J-8) on the S reel table.
- 3) Release the S main brake with a finger.
- 4) Pull the dial tension gauge (Ref. No. J-6) in the direction of the arrow and confirm that the specifications are satisfied.

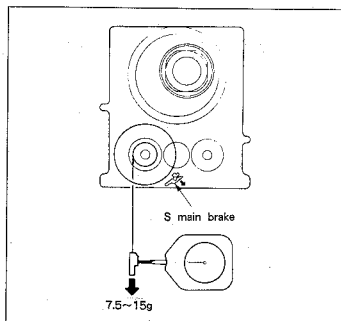


Fig. 7-62.

2. REW brake torque (See Fig. 7-63.)

- 1) Set to **FF/REW** mode.
- 2) Place the tension measurement reel (Ref. No. J-8) on the T reel table.
- 3) Release the T main brake with a finger.
- 4) Pull the dial tension gauge (Ref. No. J-6) in the direction of arrow and confirm that the specifications are satisfied.

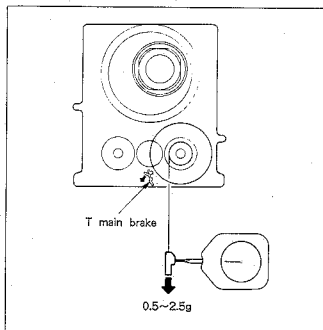


Fig. 7-63.

7-3-27. Check by FWD and RVS Winding Torque Cassette

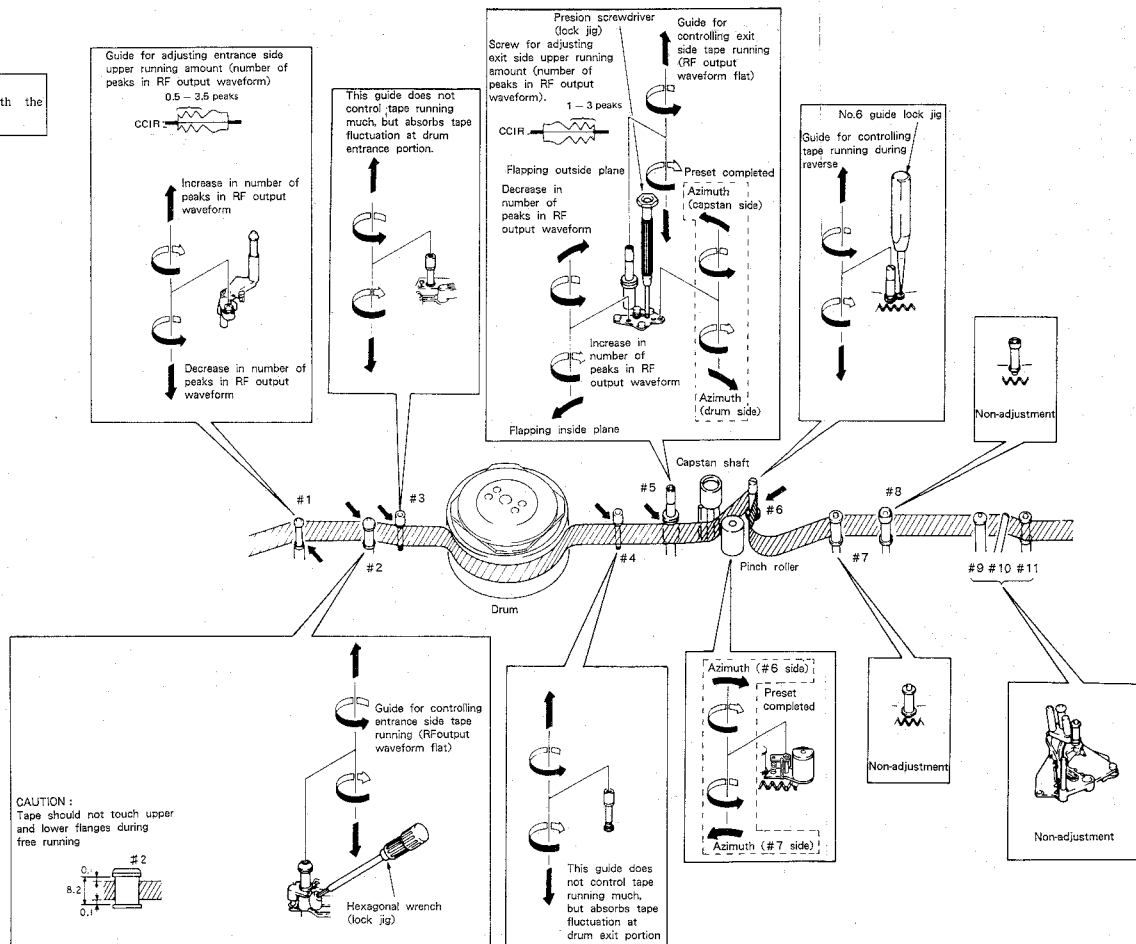
- 1) Insert the FWD and RVS winding torque cassette (Ref. No. J-12).
- 2) Set to playback mode and confirm that T reel table torque is 9.5 to 15.5 g-cm.
- 3) Set to playback mode and confirm that the S reel table torque immediately after the REW button is pressed is 17 to 23 g-cm.
- 4) Replace the appropriate reel table if the above specifications are not satisfied.

7.4. TAPE PATH ADJUSTMENT

TAPE RUNNING SYSTEM DIAGRAM

Precautions on Adjustment :

Be sure to perform this adjustment with the mechanism and lower case assembled.



- Perform this adjustment after confirming that Section 8. ELECTRICAL ADJUSTMENT is completed.

[REGARDING TRACK SHIFT JIG]

The 8 mm video system employs a high precision tracking ATF (auto track finding) which instantaneously controls the tape running speed with the four kinds of pilot signals. In this way, the tracking adjustment knob becomes unnecessary, and accurate tracing has become possible.

On the other hand however, there has been difficulty in adjusting the tape path system with the ATF method, that is it was impossible to make a perfect adjustment because the ATF automatically corrected even small head-tracing errors.

Because of this, adjustment is carried out to the tape path system by using the track shift jig (Ref. No. J-6080-891-A). As the track shift jig forcibly releases the ATF and sets the tracking amount (track shift) manually, the adjustment of the tape path system can easily be carried out.

- Previous track shift & monitor jig (J-6080-851-A) also can be used. Be sure to use the specified connector.

7-4-1. Connection of Track Shift Jig

[Connector connections]

For connection, use the connection cord (Ref. No. J-15, J-16).

Connect track shift jig to the unit referring to Fig. 7-64.

- RF/SWP connector.....FR-30P board CN104
 - CTL connector.....SE-7P board CN013
- (For details, see the Instruction Manual of Track Shift Jig.)

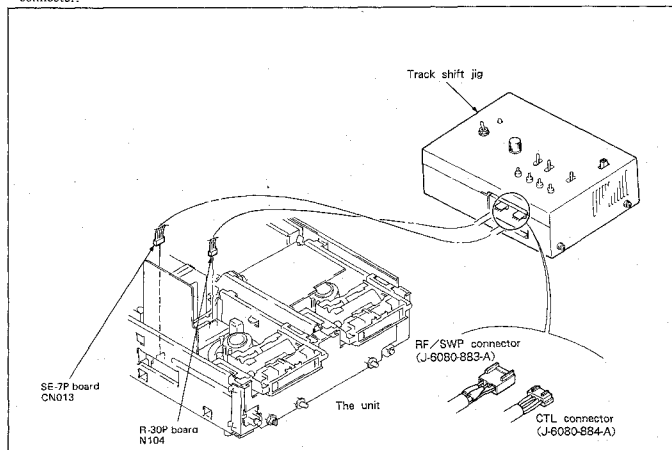
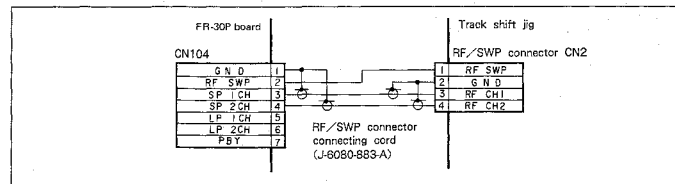


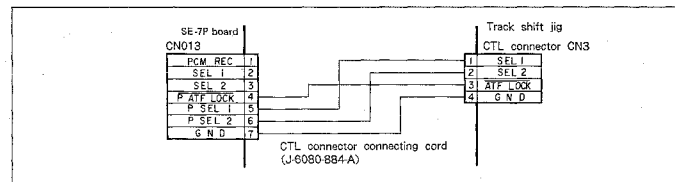
Fig. 7-64. Connection of track shift jig

[Designated connecting cord]

- RF/SWP connector connecting cord
(Part cord : J-6080-883-A)



- CTL connector connecting cord
(Part cord : J-6080-884-A)



[Position setting of respective switches]

- SEL switch.....When performing track shift, set to ON. At OFF position it becomes control of the unit side.
- PATTERN switch.....Set to EV side.
- ATF ADJ.....Set to OFF side.
- Other switches are not used when adjusting the unit.

7-4-2. Preparation for Adjustment

- 1) Perform cleaning of the tape running surface (the individual tape guides, drum, capstan shaft and pinch roller).
- 2) Connection of oscilloscope
 1ch : CH2 checking pin of track shift jig
 2ch : RF SWP checking pin of track shift jig
- 3) Set the SEL switch of the track shift jig to OFF, then playback the alignment tape (WR5-1C) for tracking, and confirm that the RF waveform of both the entrance and exit sides become flat (Fig. 7-65. Ⓐ).

If the RF waveform of both sides is not flat, the adjustment should be carried out as described below.

- In case the RF waveform on the entrance side is not flat (Fig. 7-65. Ⓑ)
Perform the adjustment according to 7-4-8, Entrance Side Adjustment.
- In case the RF waveform on the exit side is not flat (Fig. 7-65. Ⓒ)
Perform the adjustment according to 7-4-4, Exit Side Adjustment.

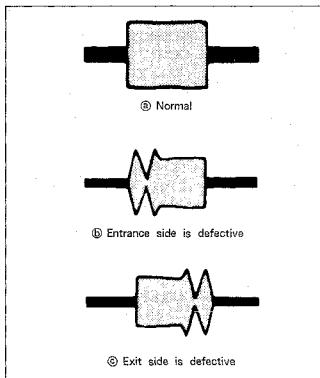


Fig. 7-65.

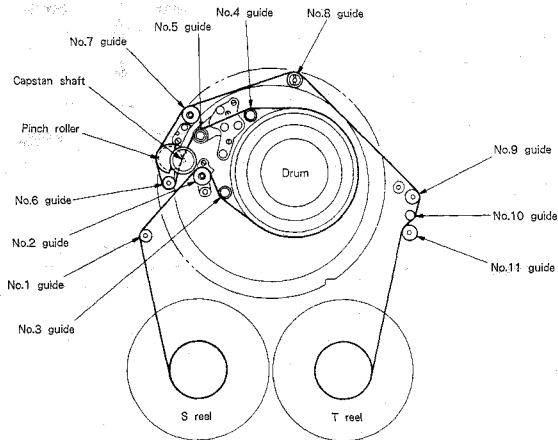


Fig. 7-66. Tape guide arrangement diagram

7-4.3. Entrance Side Adjustment

- 1) Play back the alignment tape (WRS-1C) for tracking and loosen No.2 guide lock screw ①, and rotate No.2 and No.3 guides counterclockwise to free tape running on the entrance side (See Fig. 7-67.)

Note: Since the space between the top and bottom flanges of No.2 guide is narrow, confirm that the tape is touching neither top nor bottom flanges at this point. Note that if No.2 guide is loosened too much, the tape touches the bottom flange and the RF waveform on the entrance side exceeds the original free waveform.

- 2) Confirm that the RF waveform on the entrance side has 0.5 to 3.5 peaks in this condition. If not, adjust as follows. (See Fig. 7-68.)

<less than 3.5 peak>

Adjust the height adjustment screw of No.1 guide (tension regulator arm assembly) by turning it clockwise 90° at a time. (See Fig. 7-69.)

<more than 6 peaks>

Adjust the height adjustment screw of No.1 guide (tension regulator arm assembly) by turning it counterclockwise 90° at a time (See Fig. 7-69.)

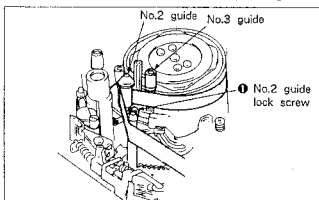


Fig. 7-67.

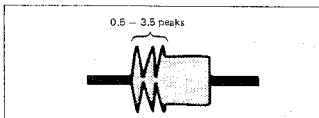


Fig. 7-68.

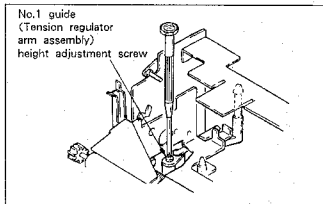


Fig. 7-69.

- 3) Slowly rotate the No.2 guide clockwise to make the entrance side waveform approximately flat. (Fig. 7-70.)

Note: Do not rotate No.2 guide excessively.

- 4) Set the SEL switch of the track shift jig to ON, then turn the track shift knob until the RF waveform amplitude becomes $2/3$. (See Fig. 7-71.)

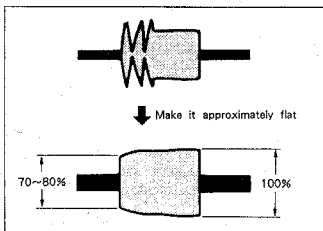


Fig. 7-70.

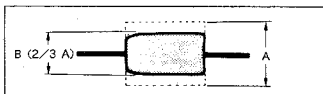


Fig. 7-71.

- 5) Raise the entrance side waveform slightly by rotating No.2 guide. (See Fig. 7-72.)
- 6) Flatten the waveform with No.3 guide. (See Fig. 7-73.)
- 7) Tighten No.2 guide lock screw ①. (See Fig. 7-67.)

Note: Be sure to perform checking in accordance with 7-4-5. Checking after Adjustment.

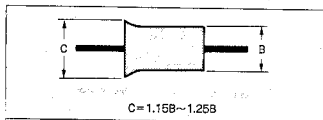


Fig. 7-72.

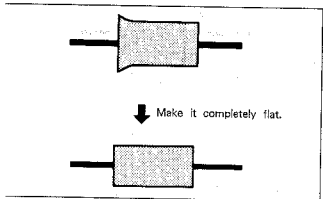


Fig. 7-73.

7-4-4. Exit Side Adjustment

- 1) Play back the alignment tape (WR5-1C) for tracking and rotate No.4 guide and No.5 guide counterclockwise in order to make the tape running on the exit side free. (See Fig. 7-74.)

Note: • If the No.5 guide nut does not loosen (it is locked with screw-paint), dissolve the paint with alcohol.

• Confirm that the tape is not touching the top and bottom of flanges of No.5 guide during free tape running.

- 2) Confirm that the RF waveform on the exit side has 1 to 3 peaks. If not, readjust as follows. (See Fig. 7-75.)

(If off standard)

- i) Rotate the lock screw ① counterclockwise to loosen.
- ii) Slowly rotate the zenith screw ② 45° at a time and wait until the RF waveform varies.
- iii) Rotate the lock screw ① clockwise to tighten. (See Fig. 7-74.)

Note: • The waveform varies if the lock screw is tightened too strongly. Tighten moderately.
• Never rotate the azimuth screw of No.5 guide.

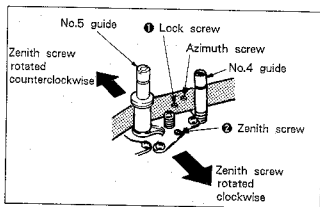


Fig. 7-74.

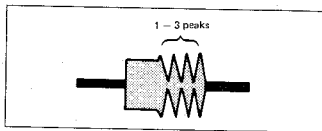


Fig. 7-75.

- 3) Rotate the No.5 guide clockwise to make the RF waveform on the exit side approximately flat. (Fig. 7-76.)

Note: The waveform reaction is slow against nut rotation. Rotate the nut after the waveform variations are stabilized.

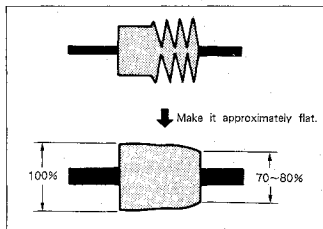


Fig. 7-76.

- 4) Set the SEL switch of the track shift jig to ON, then turn the track shift knob until the RF waveform amplitude becomes $2/3$. (See Fig. 7-77.)
- 5) Raise the exit side waveform slightly by rotating No.5 guide. (See Fig. 7-78.)
- 6) Turn No.4 guide so that waveform is flat. (See Fig. 7-79.)

Note: Be sure to perform checking in accordance with 7-4-5. Checking after Adjustment.

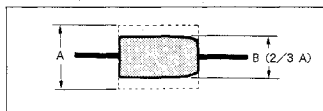


Fig. 7-77.

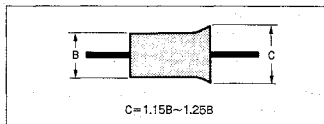


Fig. 7-78.

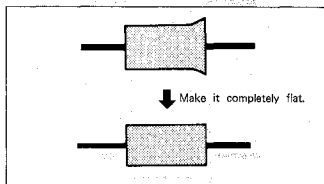


Fig. 7-79.

7-4-5. Checking after Adjustment

1. Tracking check

- 1) Play back the alignment tape (WR5-1C) for tracking.
- 2) Set the SEL switch of the track shift jig to ON, and turn the track shift knob, until the RF waveform amplitude becomes $2/3$. (See Fig. 7-80.)
- 3) Confirm that the RF waveform amplitude minimum value (E_{MIN}) at this time is more than 75% of maximum value (E_{MAX}). (See Fig. 7-81.)
- 4) Confirm that the fluctuation amount of both RF waveform entrance and exit sides is as shown in Fig. 7-82.
- 5) Set the SEL switch of the track shift jig to OFF.
- 6) Set to the REV mode and confirm that the waveform noise pitches are uniform. If not, adjust as follows. (See Fig. 7-83.)

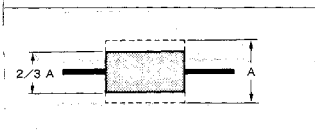


Fig. 7-80.

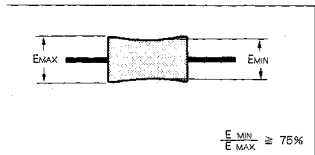


Fig. 7-81.

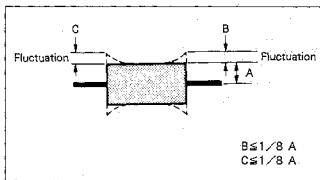


Fig. 7-82.

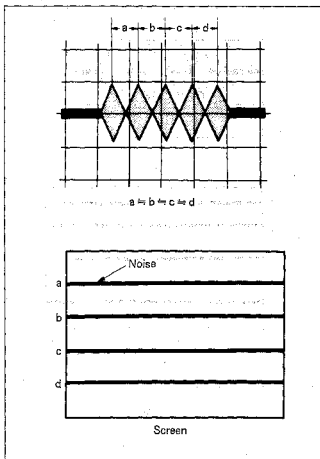


Fig. 7-83.

(Narrow noise pitch on entrance side (upper screen))
(See Fig. 7-84.)

Confirm that the RF waveforms are flat in the PLAYBACK mode.

Waveform is not flat:

Perform height adjustment of No.2 guide and No.3 guide according to 7-4-3, Entrance Side Adjustment.

Waveform is flat:

Confirm again by performing No.1 guide height and No.2 guide zenith adjustment according to 7-4-3, Entrance Side Adjustment.

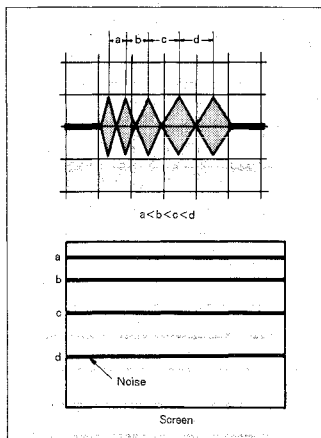


Fig. 7-84.

(Narrow noise pitch on exit side (lower screen))
(See Fig.7-85.)

Set to the PLAYBACK mode and perform height adjustment of No.4 guide and No.5 guide according to 7-4-4, Exit Side Adjustment.

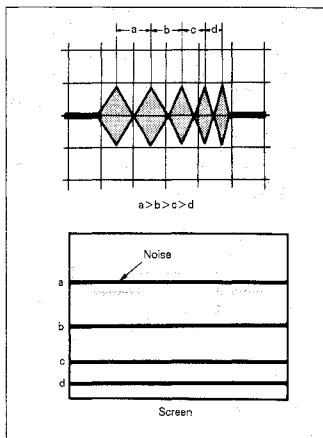


Fig. 7-85.

(Wide noise pitch on exit side (lower screen))

(See Fig. 7-86.)

Set to the PLAYBACK mode and confirm that the RF waveform is flat.

Waveform is not flat:

Perform height adjustment of No.4 guide and No.5 guide according to 7-4-4, Exit Side Adjustment.

Waveform is flat:

Rotate the guide lower toothed wheel counterclockwise with No.6 guide lock jig (Ref. No. J-11) to loosen, and rotate No.6 guide counterclockwise 45° to tighten the lower toothed wheel. Confirm the RF waveform of the REV mode again. (See Fig. 7-87.)

Note: If No.6 guide is raised too much, wrinkles may occur in section A between the capstan shaft and No.5 guide. Confirm that no wrinkles are occurring. (See Fig. 7-88.)

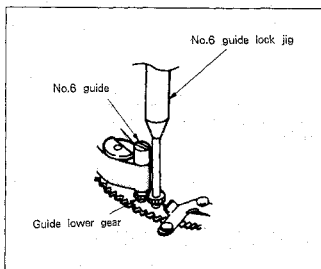


Fig. 7-87.

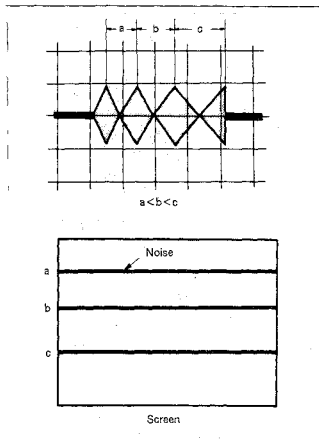


Fig. 7-86.

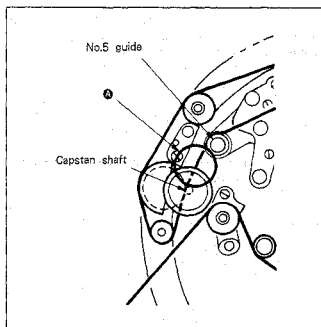


Fig. 7-88.

2. Checking rising edge

- 1) Confirm that the RF waveform rises horizontally during playback after finishing loading, after CUE /REV, and during playing back after FF. If not, adjust as follows.

(In case noise occurs on the exit side (lower screen) at rising of playback after completing loading)
(See Fig. 7-89.)

Confirm that the FWD back tension is not too low.
If too low:
Readjust according to 7-3-21. FWD Back Tension Adjustment.

If normal:
Rotate the azimuth screw of the pinch roller clockwise 5° at a time and adjust while rechecking the rising edge. (See Fig. 7-90.)

(In case noise occurs on the exit side (lower screen) at rising of playback after REV)
(See Fig. 7-89.)

Loosen the guide lower toothed wheel of No.6 guide using No.6 guide lock jig, rotate No.6 guide 90° counterclockwise to tighten the guide lower toothed wheel, then recheck the rising edge.

Note: If No.6 guide is raised too much, wrinkles may occur between the capstan shaft and No. 5 guide (in section ② of Fig. 7-88.). Confirm that no wrinkles are occurring.

(In case noise occurs on the exit side (lower screen) at rising of playback after FF)
(See Fig. 7-89.)

Confirm that the FWD back tension is not too low.
If too low:
Readjust according to 7-3-21. FWD Back Tension Adjustment.

If normal:
Rotate the azimuth screw of the pinch roller clockwise approx. 5° at a time and adjust while checking the rising edge. (See Fig. 7-90.)

Note: After finishing adjustment, be sure to check rising of playback following to completion of loading.

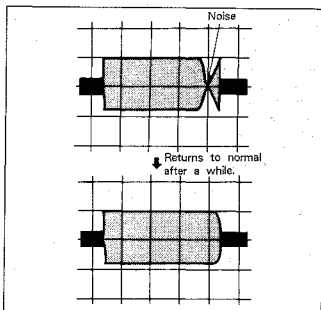


Fig. 7-89.

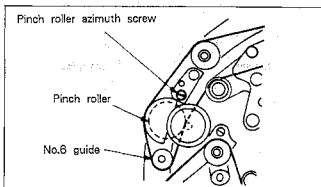


Fig. 7-90.

3. Tape running check

In playback and REV modes, confirm the following for the flange sections (arrows in Fig. 7-91.) of guides No.1 to 6: there should be no gaps and the tape should not be curled more than 0.3 mm at tape guides No.1, 2 and 5, and there should be neither gaps nor curls at guides No.3, 4 and 6.

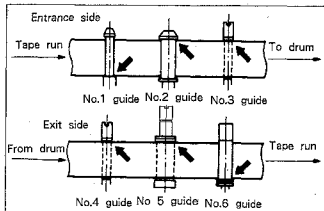


Fig. 7-91.

SECTION 8

ELECTRICAL ADJUSTMENT

For adjustment, refer to the parts arrangement diagram for adjustment on page 344.

The following measuring equipments are used for electrical adjustment:

Equipment to be used]

- 1) TV monitor
- 2) AC pack
- 3) Dual trace oscilloscope of over 10 MHz band which incorporates delay mode (use a 10 : 1 probe unless otherwise specified)
- 4) Frequency counter
- 5) Pattern generator incorporates video output terminal
- 6) Digital voltmeter
- 7) Audio generator
- 8) Audio level meter
- 9) Audio distortion meter
- 0) Audio attenuator
- 1) Alignment tapes

For tracking adjustment (WR5-1C)

Part number: 8-967-995-06

For video frequency response adjustment (WR5-6C)*1

Part number: 8-967-995-17

For operation check (WR5-4CL)*2

Part number: 8-967-995-56

For operation check (WR5-5CSP)*3

Part number: 8-967-995-47

Precautions for adjustment]

The player side must sometimes be set to recording mode for adjustment. In this case, proceed as follows:

1. Connect Pin ⑦ (LINE IN) of CN004 on the DM-24 board to Pin ⑦ (VIDEO IN) of CN103 on the HK-3 board on the player side with a jumper, and input the external video signal.
2. Connect Pin ⑩ (EXT/INT) of CN103 on the HK-3 board on the player side to Pin ⑩ (REG 5V) of CN102 with a jumper, and select the external input signal.

After this, press the player MB-9P board REC button (S007) and PB button (S002), and the player will enter the recording mode. When performing adjustments by recording and playing back on the same unit, use a new tape or one erased with an eraser.

- WR5-2C (8-967-995-16) is also available.
- WR5-3CL (8-967-995-36) is also available.
- WR5-4CSP (8-967-995-46) is also available.

[Connections of equipment]

Unless otherwise indicated, connect measuring devices as shown below.

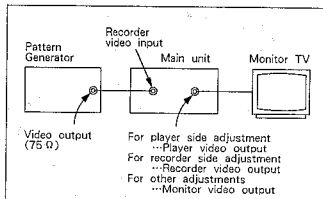


Fig. 8-1.

[Setting up for adjustment]

Video signals output by a pattern generator are used as adjustment signals when adjusting the video section, and these video output signals should be within the required standard. Connect an oscilloscope to J037 on the JB-1P board. Confirm that the amplitudes of video signal SYNC signals, of picture portions, and of burst signals are flat at approximately 0.3, 0.7 and 0.3 V respectively, and that the level ratio of the burst signals and "red" signals are 0.3 : 0.66. Fig. 8-2 shows video signals (colour bars) used in the video section adjustments.

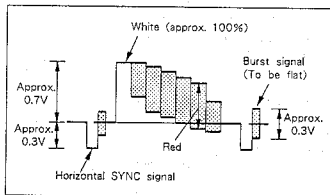
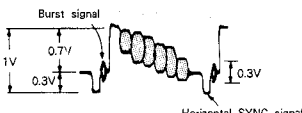
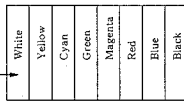


Fig. 8-2. Pattern generator colour bar signals

[Alignment tape]

Tape	Content	Use									
Tracking (WR5-1C)	1. Recording area : PCM-video 2. Recording content : CH2 : 1MHz linearity adjustment signal (CH1 : 9MHz)	Drum linearity adjustment									
Video Frequency Characteristics (WR5-6C)	1. Recording area : Video 2. Recording content : RF sweep 0 to 10MHz 3. Maker : 1, 3.58, 5.5 and 7MHz	Frequency characteristics adjustment									
Operation Check SP mode (WR5-5CSP) LP mode (WR5-4CL)	<p>1. Recording area : Video 2. Recording content :</p> <p>■ Video track</p> <ul style="list-style-type: none"> • Video signals : Color bars 4min Monoscope 4min <p>(Colour bars)</p>   <p>(100%) →</p> <ul style="list-style-type: none"> • Audio signals (AFM) 400Hz 60% modulation <p>■ PCM area (WR5-5CSP only)</p> <ul style="list-style-type: none"> • Audio signals (PCM) <table border="0"> <tr> <td>1kHz</td> <td>4min color bar section</td> <td rowspan="4">} Iterative</td> </tr> <tr> <td>20Hz</td> <td>20sec</td> </tr> <tr> <td>400Hz</td> <td>20sec</td> </tr> <tr> <td>14kHz</td> <td>20sec</td> </tr> </table> <p>Note : PCM area is not included in WR5-4CL</p>	1kHz	4min color bar section	} Iterative	20Hz	20sec	400Hz	20sec	14kHz	20sec	Operation check
1kHz	4min color bar section	} Iterative									
20Hz	20sec										
400Hz	20sec										
14kHz	20sec										

[Input/output level and impedance]

Video input BNC connector
Input signal: 1 Vp-p, 75Ω unbalanced, negative SYNC

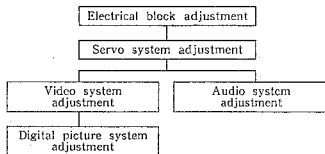
Video output BNC connector
Output signal: 1 Vp-p, 75Ω unbalanced, negative SYNC

Recorder audio input Pin jack
Input level : -10 dBs
(0 dBs = 0.775 Vrms)
Input impedance: 47 kΩ or more

Player audio output Pin jack
Specified output : -10 dBs
Output impedance: 2.2 kΩ or less

[Adjustment procedure]

Perform adjustment in the following order :



8-1. POWER SUPPLY BLOCK ADJUSTMENT

8-1-1. UNSW 5V Adjustment (Power Supply Block)

Mode	Standby (power OFF)
Measurement Point	Pin ② of CN006 on IG-1 board
Measuring Instrument	Digital voltmeter
Adjusting Element	RV203
Specified Value	5.30 ± 0.1 Vdc

Adjusting method :

- 1) Adjust to 5.3 ± 0.1 Vdc with RV203

8-1-2. REG 5V and REG 9V Adjustment (Power Supply Block)

Mode	Stop (power ON)
Measuring Instrument	Digital voltmeter
REG 5V adjustment	
Measurement Point	Pin ⑤ of CN006 on IG-1 board
Adjusting Element	RV202
Specified Value	5.2 ± 0.1 Vdc
REG 9V adjustment	
Measurement Point	Pin ⑩ of CN006 on IG-1 board
Adjusting Element	RV201
Specified Value	9.0 ± 0.1 Vdc

adjusting method :

- 1) Adjust to the specified values with the corresponding adjusting elements.

1-3. Power Supply Voltage Check (IG-1P Board)

Mode	Stop (power ON)
Measuring Instrument	Digital voltmeter
DIGITAL 5V check	
Measurement Point	Pin ④ of CN006
Specified Value	5.2 ± 0.2 Vdc
REG -9V check	
Measurement Point	Pin ⑦ of CN006
Specified Value	-9.0 ± 0.1 Vdc
DRIVE 9V check	
Measurement Point	Pin ② of CN006
Specified Value	9.0 ± 0.2 Vdc

checking method :

- 1) Confirm that each power supply voltage is within the specified value.

8-2. SERVO SYSTEM ADJUSTMENT

8-2-1. DS Clock Check (SE-7P Board)

Mode	Stop
Signal	Arbitrary
Measurement Point	TP201 (4.43 : Pin ③ of IC204)
Measuring Instrument	Oscilloscope and frequency counter
Specified Value	Level: 2.5 Vp-p and over Frequency: 4432400±300 Hz

Checking method :

- 1) Confirm that oscillation frequency and level are within the specified values.

8-2-2. ATF to Check (SE-7P Board)

Mode	Stop
Signal	Arbitrary
Measurement Point	Pin ② of IC205
Measuring Instrument	Oscilloscope and frequency counter
Specified Value	Level: 4 Vp-p and over Frequency: 5859375±3000 Hz

Checking method :

- 1) Confirm that oscillation frequency and level are within the specified values.

8-2-3. Reel FG Adjustment (MD-18P Board)

Mode	Playback
Signal	Tape recorded in LP mode
Measurement Point	TP901 (REEL FG : Pin ⑥ of IC903)
Measuring Instrument	Frequency counter
Adjusting Element	RV901
Specified Value	21.0±1.0 Hz

Adjusting method :

- 1) Adjust to 21.0±1.0 Hz with RV901.
- 2) Connect the digital voltmeter to TP902 (V.S) and confirm that the reel motor drive voltage is between 1.0 and 1.4 Vdc. 'dc.
- 3) Check REEL FG frequency and VS voltage for each mode as shown in the table below, then adjust RV901 if required.

Mode	REEL FG (TP901)	V.S (TP902)
CUE (×9)	55 to 66 Hz	1.7 to 2.3 Vdc
HI CUE (×19)	94 to 108 Hz	2.5 to 3.2 Vdc
REVIEW (×7)		1.51±0.15 Vdc
HI REVIEW (×17)		1.78±0.15 Vdc

Table 8-1.

8-2-4. Drum Free Speed Adjustment (SE-7P Board)

Mode	Recording
Signal	Arbitrary
Measurement Point	TP213 (ADE : Pin ④ of IC212)
Measuring Instrument	Digital voltmeter
Adjusting Element	RV202
Specified Value	1.90±0.1 Vdc

Adjusting method :

- 1) Adjust to 1.90±0.1 Vdc with RV202.

8-2-5. Capstan Free Speed Adjustment (SE-7P Board)

Mode	Playback
Signal	Arbitrary tape
Measurement Point	TP202 (CAP FG : Pin ③ of IC204)
Measuring Instrument	Frequency counter
Adjusting Element	SP mode : RV206 (SP FREE) LP mode : RV208 (LP FREE)
Specified Value	SP mode : 1341±1 Hz LP mode : 670±1 Hz

Connections :

- 1) Connect TP230 (PB ATF : Pin ① of IC701) to GND with an electrolytic capacitor (100 μF/10V) (connect GND to the negative side of the capacitor).
- 2) Connect TP240 (ATF LOCK : Pin ② of IC701) to GND with a jumper.

Adjusting method :

Adjusting elements for LP mode are shown in [].

- 1) For LP mode adjustment, connect Pin ③ (REC MODE SP/LP) of CN003 to GND with a jumper.
- 2) Turn power ON.
- 3) Set the playback mode and adjust to 1341±1 Hz [670±1 Hz] with RV206 [RV208].

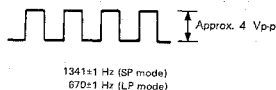


Fig. 8-3.

8-2-6. Switching Position Adjustment (SE-7P Board)

Mode	Playback
Signal	Alignment tape: For operation confirmation (WR5-5CSP)
Measurement Point	CH1: TP103 on HK-3 board (LINE OUT : Pin ⑤ of CN103) CH2: TP207 (SV RF SW : Pin ② of IC204)
Measuring Instrument	Oscilloscope
Adjusting Element	RV201
Specified Value	$6.5 \pm 0.3H$ ($416 \pm 19 \mu sec$)

Adjusting method :

- Adjust to $6.5 \pm 0.3H$ ($416 \pm 19 \mu sec$) with RV201.

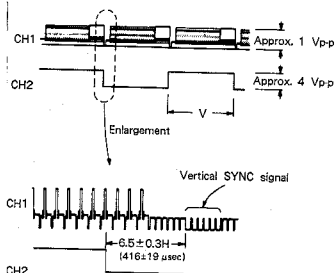


Fig. 8-4. Switching position adjustment

8-2-7. Tracking Adjustment (SE-7P Board)

Mode	Playback
Signal	Self-recorded tape in SP mode
Measurement Point	Pin ② of CN006 (PB V RF)
Measuring Instrument	Oscilloscope
Adjusting Element	RV210 (TRACK)
Specified Value	Maximum RF signal level

Adjusting method :

- Adjust RV210 so that PB V RF signal level is maximum.
- Play back in reverse direction at normal speed a tape self-recorded on the same unit in LP mode, and confirm that no noise appears on the monitor screen at the head switching position (turn RV210 if necessary).

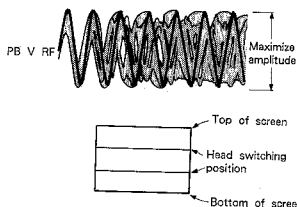


Fig. 8-5.

8-2-8. ATF BPF Balance Adjustment (SE-7P Board)

Mode	Forward $\times 2$ playback (LP)
Signal	Alignment tape : For operation confirmation (WR5-4CL)
Measurement Point	Confirm on the monitor TV screen.
Measuring Instrument	
Adjusting Element	RV701 (ATF BAL)
Specified Value	No noise on the screen

Adjusting method :

- 1) Press the $\times 2$ button (S014 on MB-9P board), and set to the forward direction $\times 2$ playback mode.
- 2) Turn RV701 so that noise appears on the monitor screen lower part.
- 3) Turn RV701 clockwise (C) slowly, and stop when noise has disappeared from the lower monitor screen.
- 4) Play back the SP mode alignment tape (WR-5-SCSP) in the forward direction $\times 2$ mode and confirm that no noise appears on the monitor screen lower part.

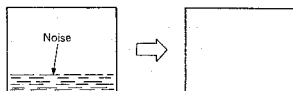


Fig. 8-6.

8-2-9. Slow Tracking Center Adjustment (SE-7P Board)

Mode	Stop
Signal	Arbitrary
Measurement Point	Player : Pin ② (A SLOW TR) of W002 Recorder : Pin ② (B SLOW TR) of W004
Measuring Instrument	Digital voltmeter
Adjusting Element	Player : RV003 Recorder : RV004
Specified Value	Voltage at Pin ① of W008
	2 ± 0.05 Vdc

2-10. STILL Adjustment (SE-7P Board)

Mode	Playback pause (STILL)
Signal	Self-recorded tape in SP mode.
Measurement Point	CH1: TP207 (SV RF : Pin ⑧ of IC204) CH2: TP228 (ST ID : Pin ⑧ of IC703)
Measuring Instrument	Oscilloscope
Adjusting Element	RV203 (STILL ADJ 1) RV204 (STILL ADJ 2)
Specified Value	4.8 ± 0.1 (RV203) 13.6 ± 0.1 (RV204)

Adjusting method:

Memorise (A) length. (See Fig. 8-7.)

Make 1 frame FWD playback by using JOG dial, and compare (A) length with it before. When it becomes short, do the adjustment.

When it becomes long, with making 1 frame FWD playback again, confirm it becomes short and adjust. (Adjust when (A) length is short: Short and long (A) repeats mutually whenever making frame by frame playback.)

Adjust to 4.8 ± 0.1 msec with RV203 (See Fig. 8-8.).
Adjust to 13.6 ± 0.1 msec with RV204 (See Fig. 8-8.).

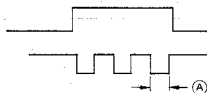


Fig. 8-7.

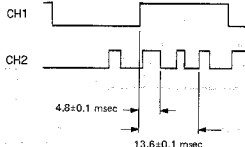


Fig. 8-8.

2-11. SP Slow Adjustment (SE-7P Board)

Mode	Forward 1/5 slow playback
Signal	Self-recorded tape in SP mode.
Measurement Point	CH1: TP232 (CAP ON : Pin ③ of CN015) CH2: TP202 (CAP FG : Pin ③ of IC204)
Measuring Instrument	Oscilloscope
Adjusting Element	RV205 (SP SLOW) RV401
Specified Value	RV205: No noise on the monitor screen. RV401: Capstan stops in minimum time.

Connection :

- 1) Connect TP001 (Pin ⑧ of IC001) to TP002 (GND) with a jumper and set the test mode.

Adjusting method :

- 1) Adjust RV205 center terminal voltage to 1.60 ± 0.05 Vdc.
- 2) Press the SLOW button (S013 on MB-9P board), to set to the forward direction 1/5 slow playback mode.
- 3) Confirm that no noise appears on the monitor screen. (If it does, adjust RV205.)
- 4) Adjust RV401 so as to minimize the time from CAP ON signal (CH1) falling edge to CAP FG signal (CH2) stabilization at level "H" or "L".
- 5) Turn RV205 clockwise (C) so that noise appears on the lower part of the monitor screen.
- 6) Turn RV205 counterclockwise (C) slowly, and stop when noise has disappeared from the lower part of the monitor screen.

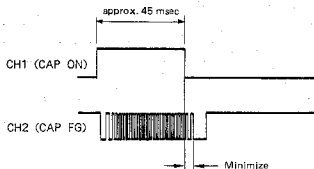


Fig. 8-9. SP slow adjustment

8-2-13. LP Slow Adjustment (SE-7P Board)

Note: Perform SP slow adjustment first.

Mode	Forward 1/5 slow playback
Signal	Self-recorded tape in LP mode.
Measurement Point	Confirm on the monitor TV screen.
Measuring Instrument	RV207 (LP SLOW)
Adjusting Element	RV207 (LP SLOW)
Specified Value	No noise on the monitor screen.

Connection :

- 1) Connect TP001 (Pin ② of IC001) to TP002 (GND) with a jumper.

Adjusting method :

- 1) Press the SLOW button (S013 on MB-9P board), to set to the forward direction 1/5 slow playback mode.
- 2) Turn RV207 clockwise (○) so that noise appears on the lower part of the monitor screen.
- 3) Turn RV207 counterclockwise (○) slowly, and stop when noise has disappeared from the lower part of the monitor screen.

8-2-13. SLOW fH Adjustment (SE-7P Board)

1. fH bias adjustment

LP mode adjusting elements are shown in [].

Mode	Forward frame advance
Signal	Self-recorded tape in SP [LP] mode.
Measurement Point	TP104 on HK-3 board (C.SYNC : Pin ② of IC101)
Measuring Instrument	Oscilloscope
Adjusting Element	RV216 [RV215]
Specified Value	Minimum fH pulse fluctuation

Adjusting method :

- 1) Turn the editing controller JOG dial to perform frame advance in the forward direction.
- 2) Adjust fluctuation of the frame advance fH pulse to minimum with RV216 [RV215].

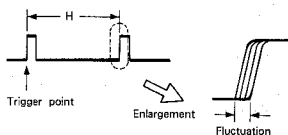


Fig. 8-10.

2. SLOW fH adjustment

Mode	Forward 1/5 slow playback
Signal	Self-recorded tape in SP mode.
Measurement Point	TP104 on HK-3 board (C.SYNC : Pin ② of IC101)
Measuring Instrument	Oscilloscope
Adjusting Element	RV212
Specified Value	Minimum fH pulse fluctuation

Adjusting method :

- 1) Press the SLOW button (S013 on MB-9P board), to set to the forward direction 1/5 slow playback mode.
- 2) Adjust RV212 so as to minimize fH pulse fluctuation.

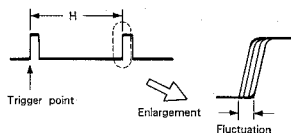


Fig. 8-11.

8-3. VIDEO ADJUSTMENT

Adjustment of the video system should in principle be performed in the sequence below.

The color video signal supplied by the pattern generator is used as video input signal for adjustment of the video system for recording mode. Confirm that the SYNC and color burst signals match the specifications for adjustment setup in Fig. 8-2.

Adjustment sequence]

- 1) Playback frequency characteristics adjustment
- 2) Flying erase check
- 3) Crystal Oscillator fo adjustment
- 4) REC Y level adjustment
- 5) Y/C separation adjustment
- 6) Y comb-type filter adjustment
- 7) SYNC AGC adjustment
- 8) VIDEO OUT level adjustment
- 9) PB Y level adjustment
- 0) Y FM carrier frequency adjustment
- 1) Y FM deviation adjustment
- 2) Emphasis adjustment
- 3) 378fo VCO adjustment
- 4) Chroma emphasis fo adjustment
- 5) Carrier balance adjustment
- 6) GCA adjustment
- 7) fh VCO adjustment
- 8) REC Y RF level adjustment
- 9) RECC RF level adjustment
- 0) REC AFM RF level check
- 1) REC ATF RF level check
- 2) REC Y recording current adjustment
- 3) REC PCM recording current adjustment
- 4) Chroma signal output level adjustment

3-1. Playback Frequency Characteristics Adjustment (RP-52P/FR-30P Board)

12 adjusting elements are shown in [].

LP CH1 and LP CH2 adjustment

Mode	Playback
Signal	Alignment tape : For frequency characteristics adjustment (WR5-6C)
Measurement Point	Pin ③ [Pin ④] of CN104 on FR-30P board External trigger : Pin ② of CN104 Trigger slope : +, [-]
Measuring Instrument	Oscilloscope
Adjusting Element	LP side : RV103 [RV104] on RP-52P board
Specified Value	3.5 MHz level : 5.5 MHz level = 4 : 3

Adjusting method :

- 1) Adjust the LP side RV103 on RP-52P board [RV104] so that the ratio of the 3.58 MHz level and the 5.5 MHz level is 4 : 3.

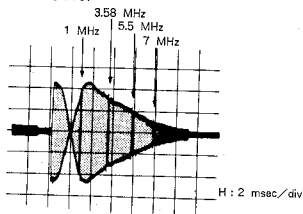


Fig. 8-12. Playback frequency characteristics adjustment

2. SP CH1 and SP CH2 adjustment

Mode	Playback
Signal	Alignment tape : For frequency characteristics adjustment (WR5-6C)
Measurement Point	Pin ⑤ [Pin ⑥] of CN104 on FR-30P board External trigger : Pin ② of CN104 on RP-52P board Trigger slope : -, [+]
Measuring Instrument	Oscilloscope
Adjusting Element	SP side : RV103 [RV104] on RP-52P board
Specified Value	3.5 MHz level : 5.5 MHz level = 4 : 3

Connection :

- 1) Connect TP206 on the SE-7P board (F TAPE: Pin ② of IC205) to GND with a jumper.

Adjusting method :

- 1) Adjust the SP side RV103 on RP-52P board [RV104] so that the ratio of the 3.58 MHz level and the 5.5 MHz level is 4 : 3.

8-3-2. Flying Erase Check (FR-30P Board)

Note: This adjustment is unnecessary for the player side.

Mode	Recording
Signal	Arbitrary
Measurement Point	TP401 (FE CHECK : Pin ⑩ of CN101)
Measuring Instrument	Oscilloscope and frequency counter
Specified Value	Frequency : 7.9 ± 0.5 MHz and over Voltage : 8.0 ± 1.6 Vp-p and over

Note: Use an MP-type tape. (Pin ⑩ of CN102 on the FR-30P board should be at "L".)

Checking method :

- 1) Confirm that oscillation frequency is 7.9 ± 0.5 MHz and oscillation voltage is 8.0 ± 1.6 Vp-p.

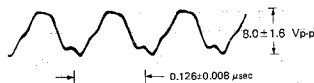


Fig. 8-13.

8-3-3. Crystal Oscillator fo Adjustment (HK-3 Board)

Mode	Playback
Signal	Alignment tape : For operation confirmation (WR5-5CSP)
Measurement Point	TP301 (3.58 : Pin ⑤ of IC301)
Measuring Instrument	Frequency counter
Adjusting Element	CV301
Specified Value	443619 ± 30 Hz

Note: Connect the frequency counter through a high-impedance (about $10^6 \Omega$) and low-capacity (10 pF or less) buffer.

Adjusting method :

- 1) Adjust to 443619 ± 30 Hz with CV301.

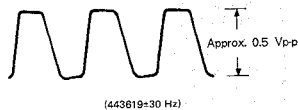


Fig. 8-14. Crystal oscillator fo adjustment

8-4. REC Y Level Adjustment (HK-3 Board)

note: This adjustment is unnecessary for the player side.

Mode	E-E
Signal	Color bar
Measurement Point	TP101 (REC Y)
Measuring Instrument	Oscilloscope
Adjusting Element	RV701 (REC Y)
Specified Value	0.50 ± 0.02 Vp-p

Connection:

Remove CN002 from the DM-24 board.

Connect J037 on the JB-1P board (recorder video input terminal) to Pin ② (EXT Y IN) of CN103 on the HK-3 board with a jumper.

Connect Pin ⑤ (EXT/INT) of CN103 on the HK-3 board to GND with a jumper.

Adjusting method:

Confirm that the video signal level at Pin ② of CN103 is 1.00 Vp-p.

Adjust the video signal level at TP101 to 0.50 ± 0.02 Vp-p with RV701.

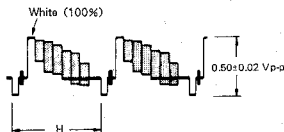


Fig. 8-15. REC Y level adjustment

8-3-5. Y/C Separation Adjustment (HK-3 Board)

Mode	E-E
Signal	Color bar
Measurement Point	Pin ② of IC201
Measuring Instrument	Oscilloscope
Adjusting Element	RV202 and LV201 (COMB FILTER)
Specified Value	Minimum residual chroma component

Adjusting method:

- 1) Connect to ground. Base of Q212 on HK-3 board.
- 2) Adjust RV202 and LV201 alternately so as to minimize the residual chroma component.

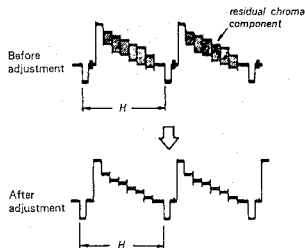


Fig. 8-16. Y/C separation adjustment

8-3-6. Y Comb-type Filter Adjustment (HK-3 Board)

Mode	E-E
Signal	Color bar
Measurement Point	Pin ② of IC201
Measuring Instrument	Oscilloscope
Adjusting Element	RV201 (COMB AGC)
Specified Value	The amplitude between white (100%) and H SYNC sections is 0 ± 15 mVp-p

Adjusting method:

- Adjust RV201 so that no difference between H SYNC and white 100% in level occurs each 1H.

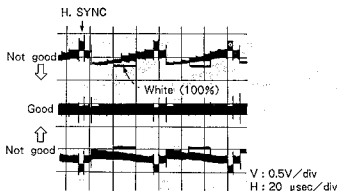


Fig. 8-17.

8-3-7. SYNC AGC Adjustment (HK-3 Board)

Mode	E-E
Signal	Color bar
Measurement Point	TP101 (REC Y: Pin ② of IC101)
Measuring Instrument	Oscilloscope
Adjusting Element	RV106 (SYNC AGC)
Specified Value	0.50 ± 0.02 Vp-p

Adjusting method:

- Adjust to 0.50 ± 0.02 Vp-p with RV106.

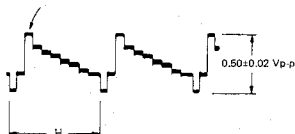


Fig. 8-18. SYNC AGC adjustment

8-3-8. VIDEO OUT Level Adjustment (HK-3 Board)

Mode	E-E
Signal	Color bar
Measurement Point	TP103 (V OUT)
Measuring Instrument	Oscilloscope
Adjusting Element	RV107 (V OUT)
Specified Value	2.00 ± 0.05 Vp-p

Adjusting method:

- Adjust to 2.00 ± 0.05 Vp-p with RV107.

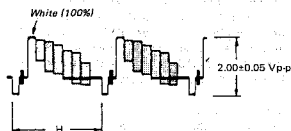


Fig. 8-19. VIDEO OUT level adjustment

8-3-9. PB Y Level Adjustment (HK-3 Board)

Mode	Playback
Signal	Alignment tape: For operation confirmation (WR5-SCSP) Color bar section
Measurement Point	TP101
Measuring Instrument	Oscilloscope
Adjusting Element	RV101 (PB Y)
Specified Value	0.50 ± 0.02 Vp-p

Adjusting method:

- Adjust to 0.50 ± 0.02 Vp-p with RV101.

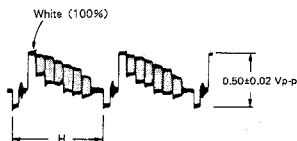


Fig. 8-20. PB Y level adjustment

8-3-10. Y FM Carrier Frequency Adjustment (HK-3 Board)

Note: This adjustment is unnecessary for the player side.

Mode	E-E
Signal	Non-signal
Measurement Point	TP501
Measuring Instrument	Frequency counter
Adjusting Element	RV103
Specified Value	4.20 ± 0.04 MHz

Adjusting method:

- 1) Set RV104 (EMPHASIS) to the mechanical center.
- 2) Adjust to 4.20 ± 0.04 MHz with RV103.
- 3) Perform "Deviation adjustment" and "Emphasis adjustment".

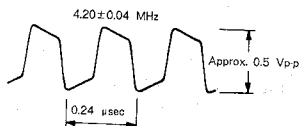


Fig. 8-21. Y FM Carrier frequency adjustment

8-3-11. Y FM Deviation Adjustment (HK-3 Board)

Note: This adjustment is unnecessary for the player side.

Mode	Recording and playback
Signal	Color bar
Measurement Point	TP102
Measuring Instrument	Oscilloscope
Adjusting Element	RV102
Specified Value	Playback level is 0.50 ± 0.02 Vp-p

Note: Perform "PB Y level adjustment" and "Y FM carrier frequency adjustments" first.

Adjusting method:

- 1) Record the color bar signal.
- 2) Play back the recorded level.
- 3) Confirm the playback output level.
Specification: 0.50 ± 0.02 Vp-p
- 4) If level does not meet the specification, turn RV102 as shown below and repeat steps 1) to 3).

	RV102 adjustment direction
Value smaller than specified	clockwise (C)
Value larger than specified	counterclockwise (C)

Table 8-2.

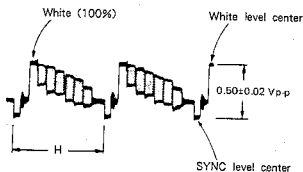


Fig. 8-22. Y FM deviation adjustment

8-3-12. Emphasis Adjustment (HK-3 Board)

Mode	E-E
Signal	Color bar
Measurement Point	TP102 (EMPH: Pin ⑩ of IC101)
Measuring Instrument	Oscilloscope
Adjusting Element	RV104 (EMPH)
Specified Value	235±5%

Adjusting method:

- 1) Adjust the white 100% peak to 235 ±5% with RV104.

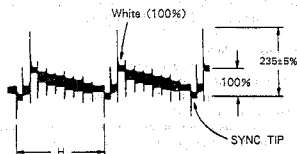


Fig. 8-23. Emphasis adjustment

8-3-13. 375fH VCO Adjustment (HK-3 Board)

Mode	E-E
Signal	Color bar
Measurement Point	Pin ⑩ of IC301
Measuring Instrument	Digital voltmeter
Adjusting Element	RV301
Specified Value	3.0±0.1 Vdc

Adjusting method:

- 1) Adjust to 3.0±0.1 Vdc with RV301.

8-3-14. Chroma Emphasis Adjustment (HK-3 Board)

Mode	E-E
Signal	Color bar
Measurement Point	Pin ⑩ of IC302
Measuring Instrument	Oscilloscope
Adjusting Element	T303 (C. EMPH)
Specified Value	Minimum 10 component

Connection:

- 1) Perform the following two connections with 15 kΩ resistor.
 - Pin ⑩ of IC301 (ACC) — Pin ⑩ of CN102 (REG 5V)
 - Pin ⑩ of IC301 (ACC) — GND

Adjusting method:

- 1) Minimize amplitude of the chroma signal flat section with T303.

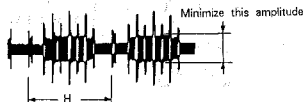


Fig. 8-24. Chroma emphasis adjustment

8-3-15. Carrier Balance Adjustment (HK-3 Board)

Mode	E-E
Signal	Color bar
Measurement Point	Pin ⑩ of IC301
Measuring Instrument	Oscilloscope
Adjusting Element	RV302 (CAR BAL)
Specified Value	Minimum 3.7 – 5.17 MHz component

Adjusting method:

- 1) Adjust RV302 so that the 3.7 – 5.17 MHz component is minimum.

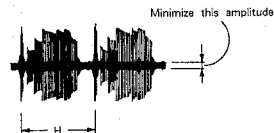


Fig. 8-25. Carrier balance adjustment

8-3-16. GCA Adjustment (HK-3 Board)

Mode	Playback Pause
Signal	Arbitrary tape
Measurement Point	Pin ② of IC304
Measuring Instrument	Oscilloscope
Adjusting Element	RV303
Specified Value	$500 \pm 25 \text{ mVp-p}$

Adjusting method:

- 1) Adjust with RV303 so that it becomes $500 \pm 25 \text{ mVp-p}$.
- 2) Set to either the STILL, CUE and Review mode, and be sure to confirm that the thickness of the colour does not differ from that of the playback mode. If necessary, adjust with RV303. (Be sure to play back a tape of LP mode.)

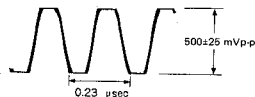


Fig. 8-26.

8-3-17. fH VCO Adjustment (HK-3 Board)

Mode	E-E
Signal	Colour bar
Measurement Point	CH1: Pin ⑬ of IC304 CH2: TP103
Measuring Instrument	Oscilloscope
Adjusting Element	RV304
Specified Value	$14.5 \pm 0.2 \mu\text{sec}$

Adjustment method:

- 1) Adjust RV304 so that the T_R of CH1 is $14.5 \pm 0.2 \mu\text{sec}$.
- 2) Confirm that the H (time) of CH1 and CH2 is stable.

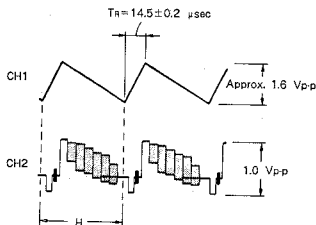


Fig. 8-27. fH VCO adjustment

8-3-18. REC Y RF Level Adjustment (HK-3 Board)

Note: This adjustment is unnecessary for the player side.

Mode	E-E
Signal	Non-signal
Measurement Point	TP501 (REC RF: Pin ⑤ of CN102)
Measuring Instrument	Oscilloscope
Adjusting Element	RV501
Specified Value	0.50 ± 0.02 Vp-p

Adjusting method:

- 1) Adjust to 0.50 ± 0.02 Vp-p with RV501.

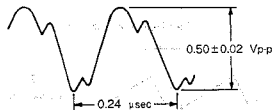


Fig. 8-28.

8-3-19. REC C RF Level (HK-3 Board)

Note: This adjustment is unnecessary for the player side.

Mode	E-E
Signal	Color bar
Measurement Point	TP501 (REC RF: Pin ⑤ of CN102)
Measuring Instrument	Oscilloscope
Adjusting Element	RV501 (C, RF)
Specified Value	100 ± 15 mVp-p

Note: An MP-type tape should be inserted. (Pin ⑥ of CN101 should be at "L").

Connection:

- 1) Perform the three connections below with a jumper in order to prevent other recording signals from interfering.
 - Emitter of Q502 (REC Y) — GND
 - Collector of Q802 (Pin ④ of IC801) — Emitter of Q804 (REG 5V)
 - Pin ④ of CN101 (REC ATF) — GND

Adjusting method:

- 1) Adjust to 100 ± 15 mVp-p with RV501.

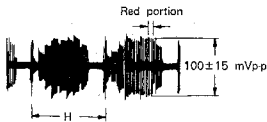


Fig. 8-29. REC C RF level

8-3-20. REC AFM RF Level Check (HK-3 Board)

Note: This check is unnecessary for the player side.

Mode	E-E
Signal	Non-signal
Measurement Point	TP501 (REC RF: Pin ⑤ of CN102)
Measuring Instrument	Oscilloscope
Specified Value	21 ± 7 mVp-p

Note: An MP-type tape should be inserted. (Pin ⑤ of CN101 should be at "L").

Connection:

Perform the two connections below with a jumper in order to prevent other recording signals from interfering.

- Emitter of Q502 (REC Y) — GND
- Pin ④ of CN101 (REC ATF) — GND

Checking method:

Confirm that level of the REC AFM RF signal is 21 ± 7 mVp-p.

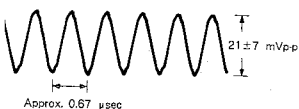


Fig. 8-30. REC AFM RF level check

8-3-21. REC ATF RF Level Check (HK-3 Board)

Note: This check is unnecessary for the player side.

Mode	E-E
Signal	Non-signal
Measurement Point	TP501 (REC RF: Pin ⑤ of CN102)
Measuring Instrument	Oscilloscope
Specified Value	11 ± 5 mVp-p

Connection:

1) Perform the two connections below with a jumper in order to prevent other recording signals from interfering.

- Emitter of Q502 (REC Y) — GND
- Collector of Q802 (Pin ④ of IC801) — Emitter of Q802 (REG 5V)

Checking method:

1) Confirm that level of the REC ATF RF level is 11 ± 5 mVp-p.

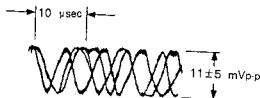


Fig. 8-31. REC ATF RF level check

8-3-22. REC Y Recording Current Adjustment (RP-52P/FR-30P Boards)

- Note:** 1) This adjustment is unnecessary for the player side.
2) Adjusting elements for the LP side are shown in [].

Mode	Recording
Signal	Non-signal
Measurement Point	TP101 (SP 1CH CUR) on FR-30P board [TP102 (LP 2CH CUR)]
Measuring Instrument	Oscilloscope
Adjusting Element	SP side: RV101 on RP-52P board [LP side: RV101 on RP-52P board]
Specified Value	195 mVp-p [170 mVp-p]

Adjusting method:

- 1) Adjust to 195 mVp-p [170 mVp-p] with RV101 on the RP-52P board.

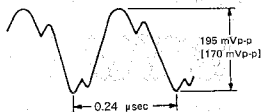


Fig. 8-32.

8-3-23. REC PCM Recording Current Adjustment (RP-52P/FR-30P Boards)

- Note:** 1) This adjustment is unnecessary for the player side.
2) Adjusting elements for the LP side are shown in [].

Mode	Recording
Signal	Non-signal
Measurement Point	TP101 (SP 1CH CUR) on FR-30P board [TP102 (LP 2CH CUR)]
Measuring Instrument	Oscilloscope
Adjusting Element	SP side: RV102 on RP-52P board [LP side: RV102 on RP-52P board]
Specified Value	175 mVp-p [160 mVp-p]

Adjusting method:

- 1) Adjust to 175 mVp-p [160 mVp-p] with RV102 on the RP-52P board.

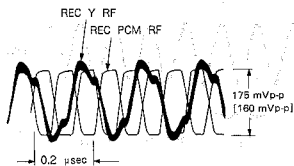


Fig. 8-33. REC PCM recording current adjustment

8-3-24. Chroma Signal Output Level Adjustment (HK-3 Board)

Mode	Playback
Signal	Alignment tape : For operation confirmation (WR5-5CSP) Color bar section
Measurement Point	Pin ⑩ of CN103 (EXT C OUT)
Measuring Instrument	Oscilloscope
Adjusting Element	RV305
Specified Value	300 ± 10 mVp-p

Adjusting method :

- 1) Adjust burst level to 300 ± 10 mVp-p with RV305.



Fig. 8-34. Chroma signal output level adjustment

8-4. DIGITAL PICTURE SYSTEM ADJUSTMENT

For this adjustment, the video signal coming through the "Recorder video input terminal" and the player playback signal are used as adjustment signals. Confirm the following two points before performing the adjustment.

1. The Y signal input via the recorder (Pin ③ of CN002 on the DM-24 board) must be 1 Vp-p. Also, burst of the chroma signal (Pin ⑦ of CN002 on the DM-24 board) must be 285 mVp-p, and the video signal (Pin ⑩ of CN002 on the DM-24 board) must be 2 Vp-p.
(Confirm this with the recorder input select switch in the "EXT" position and the recorder in the stop mode).
2. The Y playback signal from the player (Pin ⑤ of CN001 on the DM-24 board) must be 1 Vp-p. Burst of the chroma signal (Pin ⑦ of CN001 on the DM-24 board) must be 300 mVp-p, and the video signal (Pin ⑩ of CN001 on the DM-24 board) must be 2 Vp-p.
(Confirm this by playing back the color bar section of the alignment tape (WR5-SCSP) on the player for operation check).

8-4-1. Main Clock Adjustment (DM-24 Board)

Mode	Stop (Player side and recorder side)
Signal	Arbitrary
Measurement Point	TP504 (Pin ③ of IC521)
Measuring Instrument	Frequency counter
Adjusting Element	CV501
Specified Value	4433618±20 Hz

Adjusting method :

- 1) Adjust to 4433618 ±20 Hz with CV501.

8-4-2. Y Input Level Adjustment (DM-24 Board)

Mode	Playback (Player side)
Signal	Alignment tape : For operation confirmation (WR5-SCSP) Color bar section
Measurement Point	TP001 (Pin ⑤ of CN009)
Measuring Instrument	Oscilloscope
Adjusting Element	RV001
Specified Value	1.0±0.05 Vp-p

Connection :

- 1) Connect the editing controller.

Switch setting :

- Recorder input select switchPLAYER

Adjusting method :

- 1) Press the editing controller "RECORDER" button.
- 2) Adjust to 1.0 ±0.05 Vp-p with RV001.



Fig. 8-35. Y input level adjustment

8-4-3. Decoder Oscillation Free-run Frequency Adjustment (DM-24 Board)

Mode	Stop (Recorder side)
Signal	Non-signal
Measurement Point	TP005 (Pin ⑩ of IC001)
Measuring Instrument	Frequency counter *Note
Adjusting Element	CV001
Specified Value	4433618±20 Hz

Note: Connect the frequency counter through a buffer amplifier (oscilloscope, etc.) with a high input resistor (1 MΩ or more) and low capacity (10 pF or less).

Connection:

- 1) Remove the pattern generator from the recorder video input terminal, and input no signals.

Switch setting:

- Recorder input select switchLINE

Adjusting method:

- 1) Adjust to 4433618 ±20 Hz with CV001.



(4433618±20 Hz)

Fig. 8-36. Decoder oscillation free-run frequency adjustment

8-4-4. Clamp Pulse Amplitude Adjustment (DM-24 Board)

Mode	Stop (Recorder side)
Signal	Color bar
Measurement Point	TP015
Measuring Instrument	Oscilloscope
Adjusting Element	RV007
Specified Value	3.0±0.2 μsec

Switch setting:

- Recorder input select switchEXT

Adjusting method:

- 1) Adjust pulse amplitude to 3.0±0.2 μsec with RV007.

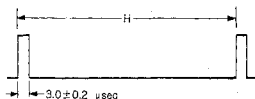


Fig. 8-37. Clamp pulse amplitude adjustment

8-4-5. Decoder Color Phase Adjustment (DM-24 Board)

Mode	Stop (Recorder side)
Signal	Color bar
Measurement Point	TP002 (B-Y) Pin ⑩ of IC013
Measuring Instrument	Oscilloscope (DC range)
Adjusting Element	RV004 (TINT)
Specified Value	2.3±0.05 Vdc

Switch setting:

- Recorder input select switchEXT

Adjusting method:

- 1) Adjust to 2.3 ± 0.05 Vdc with RV004.



Fig. 8-38. Decoder color phase adjustment

8-4-6. Colour Difference Signal Level Adjustment (DM-24 Board)

Mode	Stop (Recorder side)
Signal	Color bar
Measurement Point	TP007 (R-Y)
Measuring Instrument	Oscilloscope
Adjusting Element	RV003
Specified Value	0.90 ± 0.05 Vp-p

Switch setting :

- Recorder input select switchEXT

Adjusting method :

- 1) Adjust the R-Y signal level to 0.90 ± 0.05 Vp-p with RV003.



Fig. 8-39. Color difference signal DC level adjustment

8-4-7. Y A-D Input DC Level Adjustment (DM-24 Board)

Mode	Stop (Recorder side)
Signal	Color bar
Measurement Point	TP008 (Y)
Measuring Instrument	Oscilloscope (DC range)
Adjusting Element	RV005
Specified Value	3.15 ± 0.05 Vdc

Switch setting :

- Recorder input select switchEXT

Adjusting method :

- 1) Adjust the Y signal pedestal level to 3.15 ± 0.05 Vdc with RV005.



Fig. 8-40. Y A-D input DC level adjustment

8-4-8. APC Oscillation Free-run Frequency Adjustment (DM-24 Board)

Mode	Stop (Recorder side)
Signal	Non-signal
Measurement Point	TP012
Measuring Instrument	Frequency counter
Adjusting Element	CV002
Specified Value	4433618 ± 20 Hz

Note : Connect the frequency counter through a buffer amplifier (oscilloscope, etc.) with a high input resistor (1 M Ω or more) and low capacity (10 pF or less).

Connection :

- 1) Remove the pattern generator from the recorder video input terminal, and input no signals.

Switch setting :

- Recorder input select switchEXT

Adjusting method :

- 1) Adjust to 4433618 ± 20 Hz with CV002.

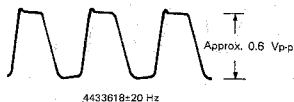


Fig. 8-41. APC oscillation free-run frequency adjustment

4-9. Readout HD Signal AFC Adjustment (DM-24 Board)

Mode	Playback (Player side and recorder side)
Signal	Arbitrary tape recorded in SP mode
Measurement Point	CH1: TP010 CH2: TP011
Measuring Instrument	Oscilloscope
Adjusting Element	RV011
Specified Value	$0.00 \pm 0.05 \mu\text{sec}$

Adjusting method:

Adjust phase difference between CH1 and CH2 to $0.00 \pm 0.05 \mu\text{sec}$ with RV011.

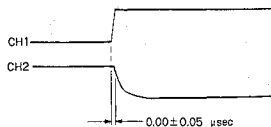
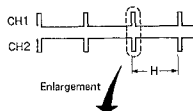


Fig. 8-42. Readout HD signal AFC adjustment

8-4-10. Write-in Clock Adjustment (DM-15P Board)

Mode	Stop (Recorder side)
Signal	Colour bar
Measurement Point	TP401 (Pin 5 of IC415)
Measuring Instrument	Frequency counter
Adjusting Element	Trimmer capacitor on IC415 (HIC)
Specified Value	$10.00 \pm 0.01 \text{ MHz}$

Switch setting:

- Recorder input select switch PLAYER
- Controller PLAYER

Connection:

- 1) Connect TP502 on DM-24 board (Pin 5 of IC501) to TP503 (GND) with a jumper to set the test mode.

Adjusting method:

- 1) Adjust to $10.00 \pm 0.01 \text{ MHz}$ with trimmer capacitor on IC415 (HIC).



Fig. 8-43. Write-in clock adjustment

8-4-11. SYNC Level Adjustment (DM-24 Board)

Mode	Stop
Signal	Colour bar
Measurement Point	TP009
Measuring Instrument	Oscilloscope
Adjusting Element	RV012
Specified Value	0.60 ± 0.02 V

Switch setting:

- Recorder input select switch PLAYER
- Controller PLAYER

Connection:

- 1) Connect TP502 on DM-24 board (Pin 5 of IC501) to TP503 (GND) with a jumper to set the test mode.

Adjusting method:

- 1) Adjust to 0.60 ± 0.02 V with RV012.

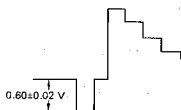


Fig. 8-44.

8-4-12. Encoder Carrier Balance Adjustment (DM-24 Board)

Mode	Stop (Recorder side)
Signal	Color bar
Measurement Point	TP009
Measuring Instrument	Oscilloscope
Adjusting Element	RV008, RV010
Specified Value	Minimum chroma component of the white portion

Switch setting:

- Recorder input select switch PLAYER
- Controller PLAYER

Connection:

- 1) Connect TP502 (Pin 5 of IC501) to TP503 (GND) with a jumper to set the test mode.

Adjusting method:

- 1) Turn RV008 and RV010 alternately so as to minimize the chroma component (4.43 MHz) of the white portion.

Minimize amplitude of this portion.

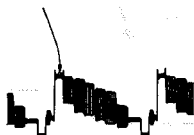


Fig. 8-45. Encoder carrier balance adjustment

4-13. Burst Level Adjustment (DM-24 Board)

Mode	Stop (Recorder side)
Signal	Color bar
Measurement Point	TP009
Measuring Instrument	Oscilloscope
Adjusting Element	RV009
Specified Value	600 ± 30 mVp-p

Switch setting:

Recorder input select switchEXT

Connection:

1) Connect TP502 (Pin ⑤ of IC501) to TP503 (GND) with a jumper to set the test mode.

Adjusting method:

1) Adjust the burst level to 600 ± 30 mVp-p with RV009.

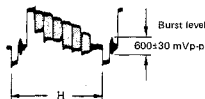


Fig. 8-46. Burst level adjustment

4-14. Player Character Position Adjustment (DM-24 Board)

Mode	Playback (Player side)
Signal	Arbitrary tape recorded in SP mode
Measurement Point	TP002
Measuring Instrument	Oscilloscope
Adjusting Element	RV015
Specified Value	2.90 ± 0.05 msec

Switch setting:

Recorder input select switchPLAYER

Adjusting method:

1) Adjust to 2.90 ± 0.05 msec with RV015.



Fig. 8-47. Player character position adjustment

8-4-15. Recorder Character Position Adjustment (DM-24 Board)

Mode	Stop (Recorder side)
Signal	Color bar
Measurement Point	TP003
Measuring Instrument	Oscilloscope
Adjusting Element	RV014
Specified Value	2.90 ± 0.05 msec

Switch setting:

• Recorder input select switchEXT

Adjusting method:

1) Adjust to 2.90 ± 0.05 msec with RV014.

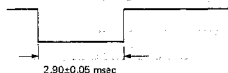


Fig. 8-48. Recorder character position adjustment

8-4-16. Encoder Hue Adjustment (DM-24 Board)

Mode	Stop (Recorder side)
Signal	Color bar
Measurement Point	Monitor video output terminal
Measuring Instrument	TV monitor
Adjusting Element	RV013
Specified Value	Hue of child screen and parent screen is equivalent

Switch setting:

• Recorder input select switchEXT

Adjusting method:

1) Match hue of the child picture to that of the parent picture with RV013.

8-4-17. External Sync VD Adjustment (DM-24 Board)

Mode	Stop (Recorder side)
Signal	Color bar
Measurement Point	CH1 : Pin ⑦ of CN004 CH2 : TP018
Measuring Instrument	Oscilloscope
Adjusting Element	RV016
Specified Value	$136.7 \pm 5 \mu\text{sec}$

Switch setting:

- Recorder input select switch LINE

Adjusting method:

- 1) Adjust delay to $136.7 \pm 5 \mu\text{sec}$ with RV016.

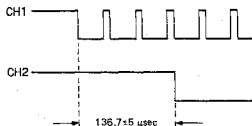


Fig. 8-49. External sync VD adjustment

8-5. AUDIO SYSTEM ADJUSTMENT

- Use a color bar signal as video input signal for adjustment.

[Connection of measuring instruments for audio]
In addition to video system measuring instruments, connect the audio system ones as shown in the figure below and perform adjustment in the VTR mode.

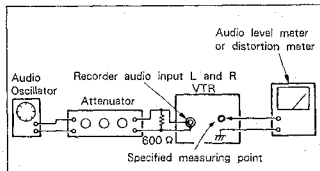


Fig. 8-50.

8-5-1. PCM Audio System Adjustment

Unless otherwise indicated, set switches to the following positions for adjustment.

- Monitor audio output select switch PCM
- Player audio output select switch PCM
- Recorder input select switch EXT

Input the audio signal to both L and R input terminals of the recorder simultaneously.

Note : Adjusting elements for the R channel are shown in [].

[Adjustment procedure]

- 1) PCM master clock adjustment
- 2) PCM playback VCO free oscillation frequency adjustment
- 3) D-A converter level adjustment
- 4) NR decode level adjustment
- 5) A-D converter offset adjustment
- 6) E-E output level check
- 7) PCM recording level adjustment
- 8) Overall frequency characteristics check
- 9) Overall distortion check
- 10) Overall noise level check

PCM master clock adjustment
(PD-16P/MB-9P boards)

Mode	E-E
Signal	Non-signal
Measurement Point	Pin ⑩ of CN001 on PA-11P board (MGK)
Measuring Instrument	Frequency counter
Adjusting Element	RV851 on PD-6P board
Specified Value	11.45 ± 0.01 MHz

Adjusting method:

Connect Pin ⑩ (PCO IN) to Pin ⑩ (VCC 5V) on the PD-16P board with a jumper.

Adjust to 11.45 ± 0.01 MHz with RV851.

Remove the jumper.

Connect Pin ⑩ on the PD-16P board to GND with a jumper.

Confirm that frequency is 11.63 MHz or higher.

2. PCM playback VCO free oscillation frequency adjustment (PD-16P/MB-9P boards)

Mode	Playback
Signal	Arbitrary tape
Measurement Point	Pin ⑧ of IC854 on PD-16P board
Measuring Instrument	Frequency counter
Adjusting Element	RV854 on PD-6P board
Specified Value	11.58 ± 0.05 MHz

Note: Remove the PA-11P board before adjusting.

Connection:

- 1) Connect Pin ⑩ (DUTY) of CN851 to Pin ⑩ (VCC 5V) of CN852 on the PD-16P board with a jumper.
- 2) Connect Pin ⑦ (PR PCM CARRIER) of CN852 to Pin ⑨ (GND) of CN852 on the PD-16P board with a jumper.

Adjusting method:

- 1) Adjust to 11.58 ± 0.05 MHz with RV854 on the PD-16P board.



Fig. 8-51.



Fig. 8-52.

3. D-A converter level adjustment (PA-11P/MB-9P boards)

Mode	Playback
Signal	Alignment tape : For operation confirmation (WR5-SCSP) 1kHz (Color bar) section
Measurement Point	Pin ⑤ of CN001 on PA-11P board (L DA OUT) [Pin ⑥ (R DA OUT)]
Measuring Instrument	Audio level meter
Adjusting Element	RV032 on PA-11P board
Specified Value	-4.0 ± 0.2 dBs

Adjusting method :

- 1) Adjust to -4.0 ± 0.2 dBs with RV032.

Note : If there is a level difference between L and R channels, adjust to the center value.

4. NR decode level adjustment (PA-11P/MB-9P boards)

Mode	Playback
Signal	Alignment tape : For operation confirmation (WR5-SCSP) 400Hz (Monoscope section)
Measurement Point	Pin ⑤ of CN001 on PA-11 board (L PB OUT) [Pin ⑥ (R PB OUT)]
Measuring Instrument	Audio level meter
Adjusting Element	RV031 on PA-11P board
Specified Value	-14.0 ± 0.2 dBs

Adjusting method :

- 1) Adjust to -14.0 ± 0.2 dBs with RV031.

Note : If there is a level difference between L and R channels, adjust to the center value.

5. A-D converter offset adjustment (PA-11P/MB-9P boards)

Note : This adjustment is unnecessary for the player side.

Mode	REC
Signal	Non-signal
Measurement Point	CH1 : Pin ① of CN001 on PA-11P board (AD/DA DATA) CH2 : Pin ② of CN001 on PA-11P board (WCK)
Measuring Instrument	Oscilloscope
Adjusting Element	RV001 on PA-11P board [RV051]
Specified Value	Brightness of upper luminance line and lower luminance line is equivalent.

Note : Since L and R channels interfere with each other, perform adjustment alternately.

Connection :

- 1) Connect with jumper the following pins of CN003 on the MB-9P board.

- Pin ③ (L IN) — Pin ② (GND)
- Pin ④ (R IN) — Pin ⑤ (GND)

Adjusting method :

- 1) Adjust RV001 [RV051] so as to make brightness of the upper and lower luminance lines equal.

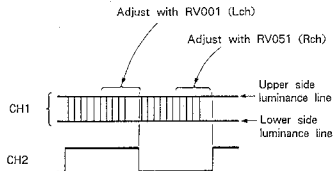


Fig. 8-53.

E-E output level check

Note: This check is unnecessary for the player side.

Mode	E-E
Signal	400 Hz, -10 dBs: Recorder audio input terminal L [R]
Measurement Point	Pin ② of CN001 on PA-11P board (L PB OUT) [Pin ⑤ (R PB OUT)]
Measuring Instrument	Audio level meter
Specified Value	-16.0 ± 0.5 dBs

Checking method:

- 1) Confirm that signal level is -16.0 ± 0.5 dBs.

PCM recording level adjustment (PA-11P/MB-9P boards)

Note: This adjustment is unnecessary for the player side.

Mode	Self-recording and playback
Signal	400 Hz, -10 dBs: Recorder audio input terminal L [R]
Measurement Point	Pin ② of CN001 on PA-11P board (L PB OUT) [Pin ⑤ (R PB OUT)]
Measuring Instrument	Audio level meter
Adjusting Element	RV002 on PA-11P board [RV052]
Specified Value	-14.0 ± 0.5 dBs

Note: Perform "NR decode level adjustment" first.

Adjusting method:

Record the signal.

Playback the recorded section.

Confirm that the playback signal level is -14.0 ± 0.5 dBs.

If the reading does not meet the specification, adjust RV002 [RV052] and repeat steps 1) to 3).

8. Overall frequency characteristics check

Mode	Self-recording and playback
Signal	④ 400 Hz, -20 dBs ⑤ 20 Hz, -20 dBs ③ 14 kHz, -20 dBs Recorder audio input terminal L [R]
Measurement Point	Pin ① of CN003 on MB-9P board [Pin ③]
Measuring Instrument	Audio level meter
Specified Value	When the 400 Hz playback output level is specified as 0 dB, the playback output levels of 20 Hz becomes $0 \pm \frac{2}{3}$ dB, the playback output levels of 14 kHz becomes $0 \pm \frac{2}{3}$ dB.

Note: When checking the player side, use a tape recorded on the recorder side.

Checking method:

- 1) Record signals ③ to ⑤, in this order.
- 2) Playback the recorded section.
- 3) Confirm that the 20 Hz playback output level is $0 \pm \frac{2}{3}$ dB and the 14 kHz playback output level is $0 \pm \frac{2}{3}$ dB when the 400 Hz playback output level is set to 0 dB.

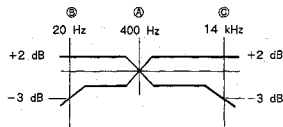


Fig. 8-54.

9. Overall distortion check

Mode	Self-recording and playback
Signal	1 kHz, -0 dBs: Recorder audio input terminal L [R]
Measurement Point	Pin ① of CN003 on MB-9P board [Pin ⑥]
Measuring Instrument	Distortion meter
Specified Value	Less than 0.35% *1

Note: When checking the player side, use a tape recorded on the recorder side.

Checking method:

- 1) Record the signal.
- 2) Playback the recorded section.
- 3) Confirm that the distortion rate is less than 0.35% *1.

*1 Value during using a 30 kHz LPF.

10. Overall noise level check

Mode	Self-recording and playback
Signal	Non-signal (Insert shorting plugs into the recorder audio input terminals L and R.)
Measurement Point	Pin ① of CN003 on MB-9P board [Pin ⑥]
Measuring Instrument	Audio level meter
Specified Value	Less than -85 dBs *2

Note: When checking the player side, use a tape recorded on the recorder side.

Checking method:

- 1) Record the signal.
 - 2) Playback the recorded section.
 - 3) Confirm that noise level is less than -85 dBs *2
- *2 Value during using an IHF-A listening sensitivity correction filter.

8-5-2. AFM Audio System Adjustment

Notes: 1) Input the audio signal to both L and R audio input terminals of the recorder simultaneously.

- 2) Set switches to the following positions for adjustment.

- Monitor audio output select switch Standard
- Player audio output select switch Standard
- Recorder input select switch EXT

1. AFM carrier frequency check (HK-3 board)

Mode	Playback
Signal	Non-signal
Measurement Point	Pin ② of IC801
Measuring Instrument	Frequency counter
Specified Value	1.500±0.002 MHz

Checking method:

- 1) Turn the audio oscillator output OFF.
- 2) Confirm the reading on frequency counter becomes 1.500±0.002 MHz.

2. AFM deviation check (HK-3 board)

Mode	Playback
Signal	Alignment tape: For operation confirmation (WR5-5CSP)
Measurement Point	Pin ③ of CN103
Measuring Instrument	Audio level meter
Specified Value	-10±1.0 dBs

Checking method:

- 1) Confirm the reading on audio level meter becomes -10±1.0 dBs.

EE output level check

Note: This check is unnecessary for the player side.

Mode	E-E
Signal	400 Hz, -10 dBs
Measurement Point	Pin ③ of CN003 on MA-22 board
Measuring Instrument	Audio level meter
Specified Value	-7±2 dBs

Checking method:

- 1) Confirm that the audio output level is -7±2 dBs.

Overall level characteristics check

Mode	Self-recording and playback
Signal	400 Hz, -10 dBs
Measurement Point	Checking recorder side: Pin ③ of CN003 on MA-22 board Checking player side: Pin ③ of CN010 on MA-22 board
Measuring Instrument	Audio level meter
Specified Value	-10±1.5 dBs

Note: When checking the player side, use a tape recorded on the recorder side.

Checking method:

- 1) Record the signal.
- 2) Playback the recorded section.
- 3) Confirm that the audio output level is -10±1.5 dBs.

5. Overall frequency characteristics check

Mode	Self-recording and playback
Signal	Ⓐ 400 Hz, -20 dBs Ⓑ 30 Hz, -20 dBs Ⓒ 14 kHz, -20 dBs
Measurement Point	Checking recorder side: Pin ③ of CN003 on MA-22 board Checking player side: Pin ③ of CN010 on MA-22 board
Measuring Instrument	Audio level meter
Specified Value	When the 400 Hz playback output level is specified as 0dB, the playback output levels of 30 Hz and 14 kHz become both 0±3 dB.

Note: When checking the player side, use a tape recorded on the recorder side.

Checking method:

- 1) Record signals Ⓐ to Ⓒ, in this order.
- 2) Playback the recorded section.
- 3) Confirm that 30 Hz and 14 kHz playback output levels are both 0±3 dB when the 400 Hz playback output level is set to 0 dB.

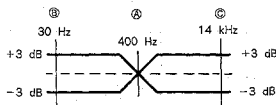


Fig. 8-55. Overall frequency characteristics check

6. Overall distortion check

Mode	Self-recording and playback
Signal	400 Hz, -10 dBs
Measurement Point	Checking recorder side : Pin ③ of CN003 on MA-22 board Checking player side : Pin ③ of CN010 on MA-22 board
Measuring Instrument	Distortion meter
Specified Value	Less than 0.8% *1

Note : When checking the player side, use a tape recorded on the recorder side.

Checking method :

- 1) Record the signal.
- 2) Playback the recorded section.
- 3) Confirm that the distortion rate is less than 0.8% *1.

*1 Value during using a 30 kHz LPF.

7. Overall noise level check

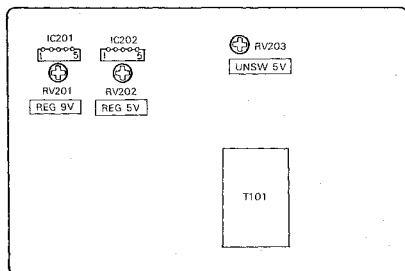
Mode	Self-recording and playback
Signal	Non-signal (Insert shorting plugs into the AUDIO IN terminals L and R.)
Measurement Point	Checking recorder side : Pin ③ of CN003 on MA-22 board Checking player side : Pin ③ of CN010 on MA-22 board
Measuring Instrument	Audio level meter
Specified Value	Less than -70 dBs *2

Note : When checking the player side, use a tape recorded on the recorder side.

Checking method :

- 1) Record the signal.
 - 2) Playback the recorded section.
 - 3) Confirm that noise level is less than -70 dBs *2.
- *2 Value during using an IHF-A listening sensitivity correction filter.

POWER BLOCK (SR-89 BOARD) (COMPONENT SIDE)



The floor plan shows two rooms labeled RV003 and RV004. RV003 contains a "Slow tracking center Player" and is associated with W002 and W008. RV004 contains a "Slow tracking center Recorder" and is associated with W004. The rooms are separated by a wall, and there is an entrance area between them.

This floor plan shows the second floor of the building. It includes several rooms and areas labeled with callouts:

- CN814**: Located in the top left corner.
- CN812**: Located in the top center.
- CN811**: Located in the top right corner.
- TP902**: Located in the center of the floor.
- TP901**: Located in the middle right area.
- RV901**: Located in the bottom right area.
- Repl. FG**: Located in the bottom right corner, below RV901.

The plan also shows various doorways, corridors, and a large open area on the left side.

The diagram shows two identical RP-52P BOARD units, labeled TP101 and TP102. Each board has a 16-pin connector at the top (pins 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16) and a 16-pin connector at the bottom (pins 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16). The boards are connected to a central bus system consisting of CN101, CN102, and CN104. The RP-52P BOARD contains several functional blocks: REC Y recording current SP, REC PCM recording current SP, REC Y recording current LP, REC PCM recording current LP, Playback frequency characteristics SP CH1, Playback frequency characteristics SP CH2, Playback frequency characteristics LP CH1, and Playback frequency characteristics LP CH2. The boards are also connected to a power supply system consisting of TP101 and TP102.

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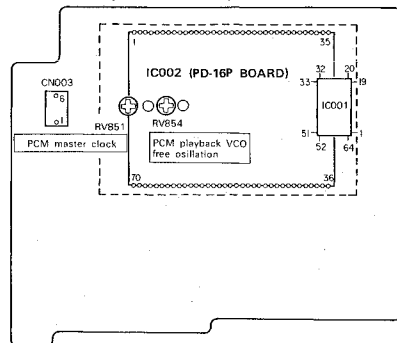


FR-:

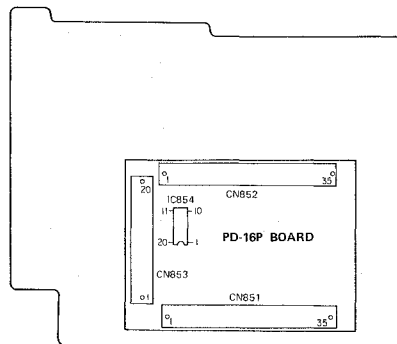


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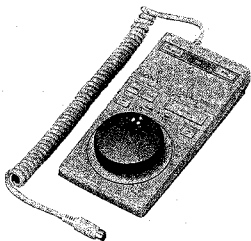
MB-9P BOARD (COMPONENT SIDE)



MB-9P BOARD (CONDUCTOR SIDE)



RM-E720



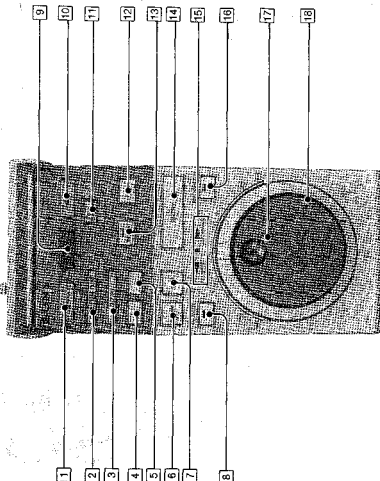
SPECIFICATIONS

Power requirements	5 V DC, supplied from the EVO-720P
Power consumption	0.75 W
Dimensions	Approx. 90 × 43 × 182 mm (w/h/d) (3½ × 1¾ × 7¼ inches) incl. projecting parts and controls
Cable length	Approx. 35 cm (13⅞ inches) when curled
Weight	Approx. 0.3 kg (10.6 oz)

EDITING CONTROLLER
SONY®

1. LOCATION AND FUNCTION OF CONTROLS

Editing Controller



1 PGM MODE (program mode) button and indicator
Press to set the unit to the program editing mode. The indicator lights in the program editing mode.

2 ONE PGM PLAY (one program play) button
In the editing mode, press this button to preview one of the assigned programs.

3 GO button
Press this button to run the tape to the IN or OUT point of the program selected with the +/- buttons. When the assigned point is located, the PLAYER is set to the freeze picture mode.

4 - button
Press this button to display the desired editing data on the monitor screen.
Each time this button is pressed, the previous editing data appears.

5 + button
Press this button to display the desired editing data on the monitor screen.
Each time this button is pressed, the next editing data appears: the IN point of program 1, the OUT point of program 1, the IN point of program 2, etc. in order.

6 FREEZE button
When the REORDER INPUT SELECT switch is set to PLAYER, press to set the PLAYER to the freeze picture editing mode. "FRZ" appears on the monitor screen.
Press it again to release the freeze picture editing mode.
When the REORDER INPUT SELECT switch is set to LINE, use this button to set a picture from external equipment as a freeze picture.

7 TITLE button
Press to set the unit to the title mode. Press it again to release the title mode.

8 PLAYER button and indicator
Press to set the unit to the PLAYER mode. The picture of the tape inserted into the PLAYER is displayed as the main picture on the screen, and can be controlled by means of the JOG dial and SHUTTLE ring. The indicator lights to indicate the REORDER mode.

9 JOG dial
Press to start editing, simple insert editing or program editing. The indicator blinks during pre-roll before editing, and it lights during editing.

10 END button
Press to stop quick editing, program editing or simple insert editing. When this button is pressed, both the REORDER and PLAYER are set to the freeze picture mode.

11 ONE PGM CLR (one program clear) button
Press this button to clear the editing data of the program selected with the +/- buttons. New data can be set for the same program number.

12 P in P button

Press to set to picture-in-picture mode. The subsidiary picture will appear on the upper corner of the screen. Press it again to release the picture-in-picture mode.

Notes

- In picture-in-picture mode, the main or subsidiary picture will be displayed in gray if the corresponding dial is not set to the playback or freeze picture mode.
- The picture-in-picture function can also be used with the picture from the VCR connected to the REORDER IN jacks when the REORDER INPUT SELECT switch is set to LINE. If no signal is input, the picture from the VCR will appear on the main or subsidiary screen selected for the external VCR. This is not a feature of the unit.

13 INSERT button and indicator
Press to start the simple insert editing. The indicator lights during simple insert editing.

14 ENTRY button
In the program editing mode, press this button to store the editing data such as the IN and OUT points, freeze picture and title in memory. For simple insert editing, press this button to store the OUT point in memory.

15 JOG/SHUTTLE indicator
□ : Lights when the JOG dial or SHUTTLE ring is in use.
▷ : Lights when the tape is transported in a forward direction.
◁ : Lights when the tape is transported in a reverse direction.

16 REORDER button and indicator
Press to set the unit to the REORDER mode. The picture of the tape inserted into the REORDER is displayed as the main picture on the screen, and can be controlled by means of the JOG dial and SHUTTLE ring. The indicator lights to indicate the REORDER mode.

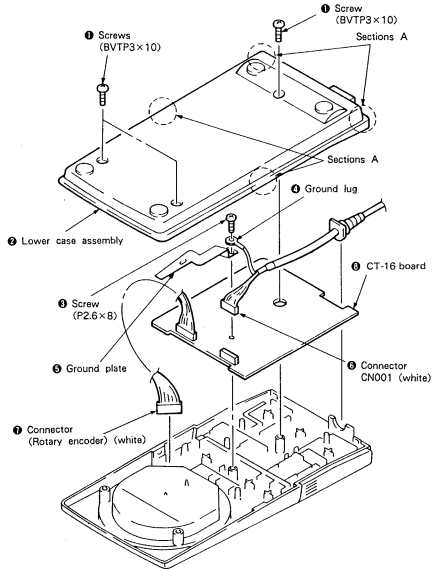
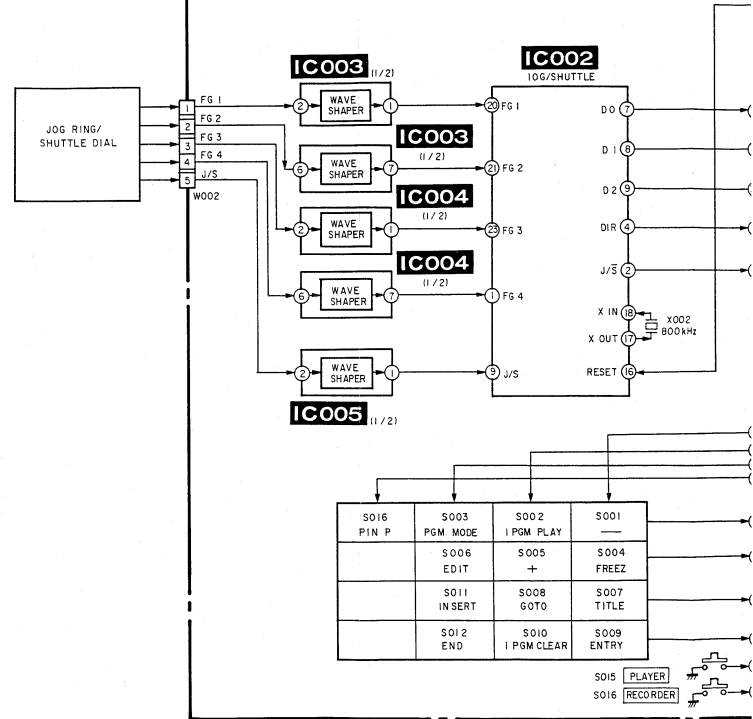
17 JOG dial
Turn this dial in the freeze picture mode. The playback tape speed will be according to the speed you are turning the dial: between 1/5 normal speed (frame-by-frame playback) and double speed in the forward direction, and between 1/10 normal speed and 3 times normal speed in the reverse direction.

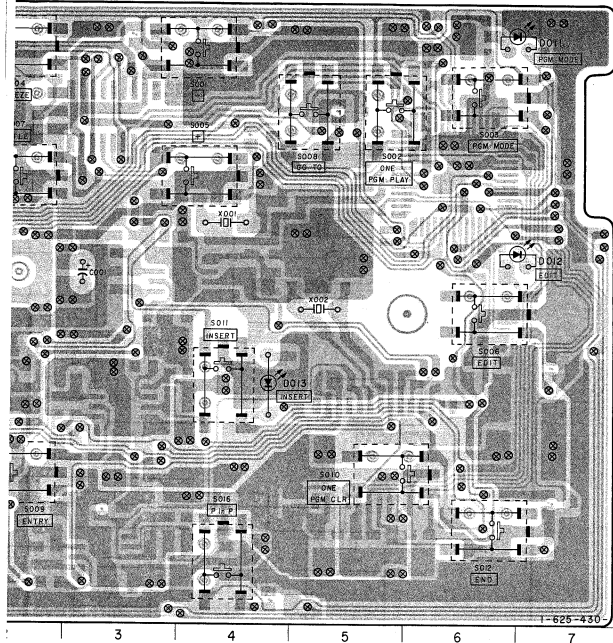
18 SHUTTLE ring
Turn and hold this ring in the freeze picture mode. The tape will be played back at a speed according to the angle at which you hold the ring: 1/5, normal, double, 9 times or 17 times normal speed in the forward direction, and 1/5, normal, 3 times, 7 times or 17 times normal speed in the reverse direction.



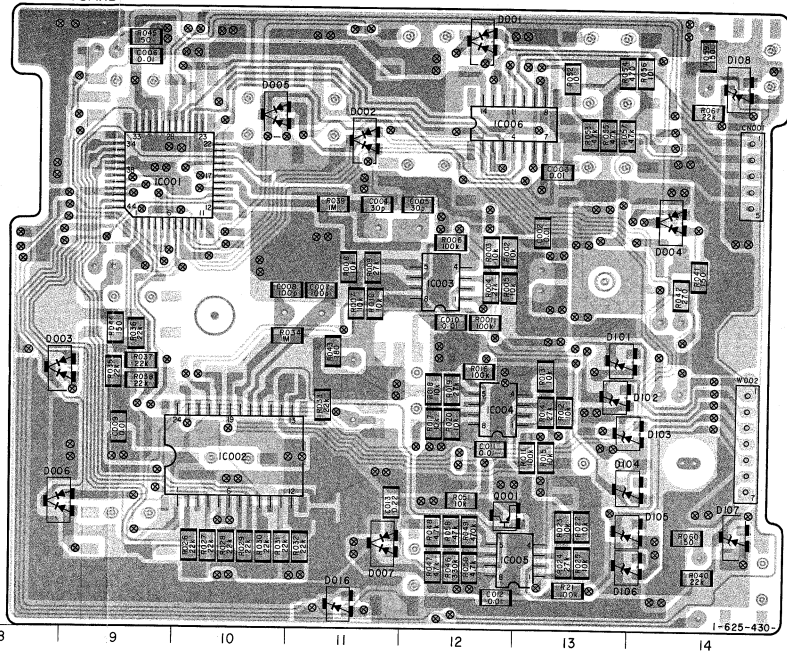
2. REMOVAL OF THE CT-16 BOARD

- 1) Remove the three screws **①**.
- 2) Disengage the four claws at sections A using a minus screwdriver, and remove the lower case assembly **②**.
- 3) Remove the screw **③** and remove the ground lug **④** and the ground plate **⑤**.
- 4) Remove the connectors (CN001) **⑥** and **⑦**, and remove the CT-16 board **⑧**.

**CT-16 BOARD**



CT-16 BOARD (CONDUCTOR SIDE)



in the component side,
in the printed side.

ables seeing.

siator with resistors.
igram for digital transistor.

Note

Conductor side: Parts on the conductor side being
seen from the conductor are stated.
Component side: Parts on the component side being
seen from the component are stated.

SEMICONDUCTORS

M50760-340FP



2SC1815



11ES2



CT-16 BOARD

CM001 B-14

D001 A-12

D002 B-11

D003 B-8

D004 B-14

D005 A-10

D006 E-8

D007 E-11

D008 C-1

D009 C-1

D010 D-1

D011 A-7

D012 C-7

D013 D-4

D014 A-1

D015 E-1

D016 E-11

D017 D-13

D018 D-14

D019 D-14

D020 E-14

D021 E-14

D022 E-14

D023 E-14

D024 A-14

Q001 E-12

IC001 B-9

IC002 D-10

IC003 C-12

IC004 D-12

IC005 E-13

IC006 B-12

M5231L



2SC2060Q



1S2837



μPC393G2



2SC3832



RD6.2M-B2



μPD74HC125G



DTC144EK



GL-1EG102



GL-1PR102



μPD7507HG-550-22



11D004

15S144

DS442

ERD43-02



TLR123



TLY123



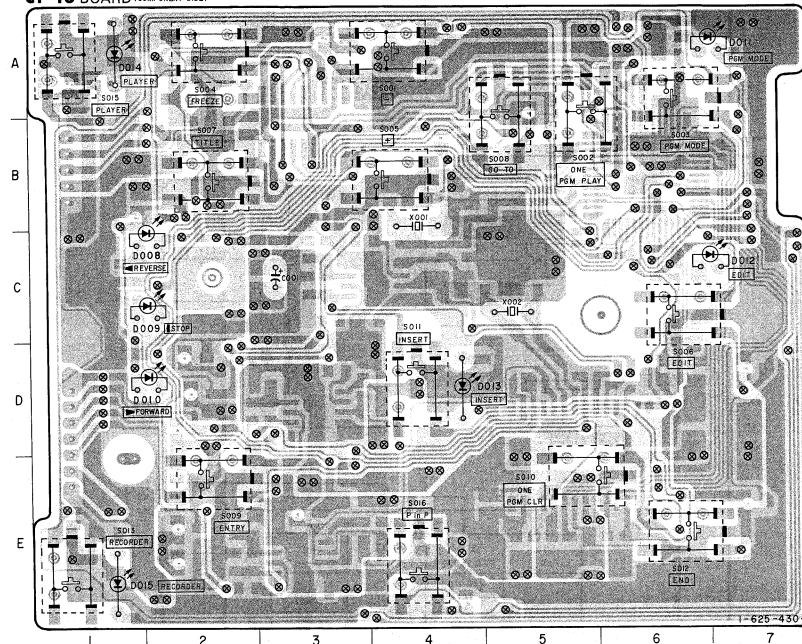
2SA1020



4. PRINTED WIRING BOARD

— Ref No. CT-16 BOARD: 10000 series —

CT-16 BOARD (COMPONENT SIDE)

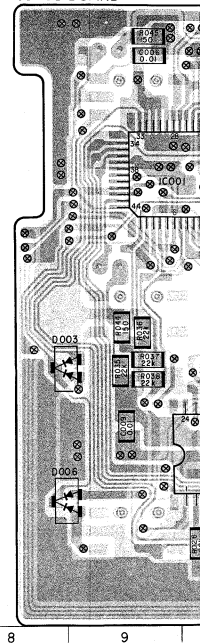


Note (Printed Wiring Board)

- — : Indicates a lead wire mounted on the component side.
- — : Indicates a lead wire mounted on the printed side.
- ⊙ : Through hole.
- : Pattern from the side which enables seeing.
- : Pattern of the rear side.
- : Digital transistor (CT-16: Q001) transistor with resistors.

Refer to the CT-16 board schematic diagram for digital transistor.

CT-16 BOARD (CONDUCTOR SIDE)



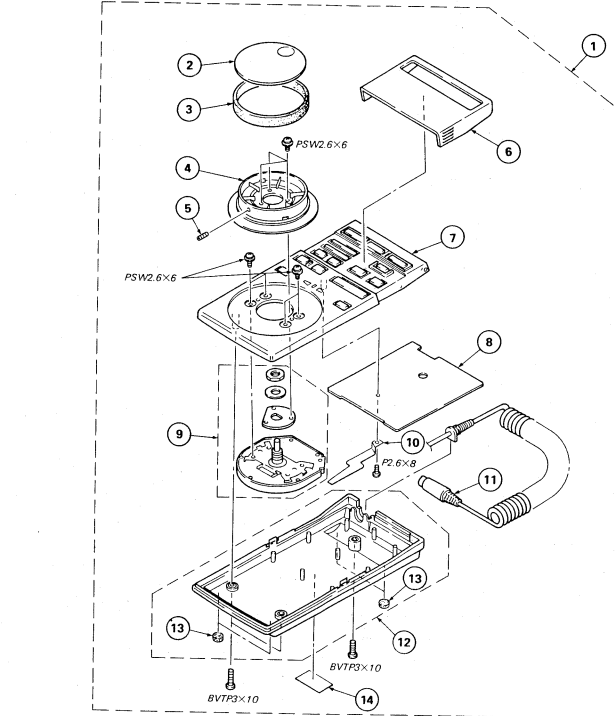
Note

- Conductor side: Parts on the conductor side being seen from the conductor are stated.
- Component side: Parts on the component side being seen from the component are stated.

6. EXPLODED VIEW

NOTE:

- XX, -X mean standardized parts, so they may have some differences from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
1	A-7002-262-A	CONTROLLER BLOCK ASSY (E)	2-14	8	A*-7070-621-A	CT-16 BOARD, COMPLETE	
2	3-724-132-01	DIAL, JOG	9	1-464-924-11	ENCODER, ROTARY		
3	3-697-994-01	COVER, S DIAL	10	3-724-170-01	PLATE, GROUND		
4	3-724-158-01	DIAL, SHUTTLE	11	1-559-726-11	CABLE (WITH DIN PLUG) BP		
5	3-701-509-00	SET SCREW, DOUBLE CUP 3X8	12	X-3691-904-2	CASE ASSY, LOWER		
6	3-724-127-01	LID	13	3-570-503-00	LED		
7	X-3691-912-1	CASE ASSY, UPPER	14	3-697-981-01	LABEL, MODEL NUMBER (U/C)		

7. ELECTRICAL PARTS LIST

NOTE:

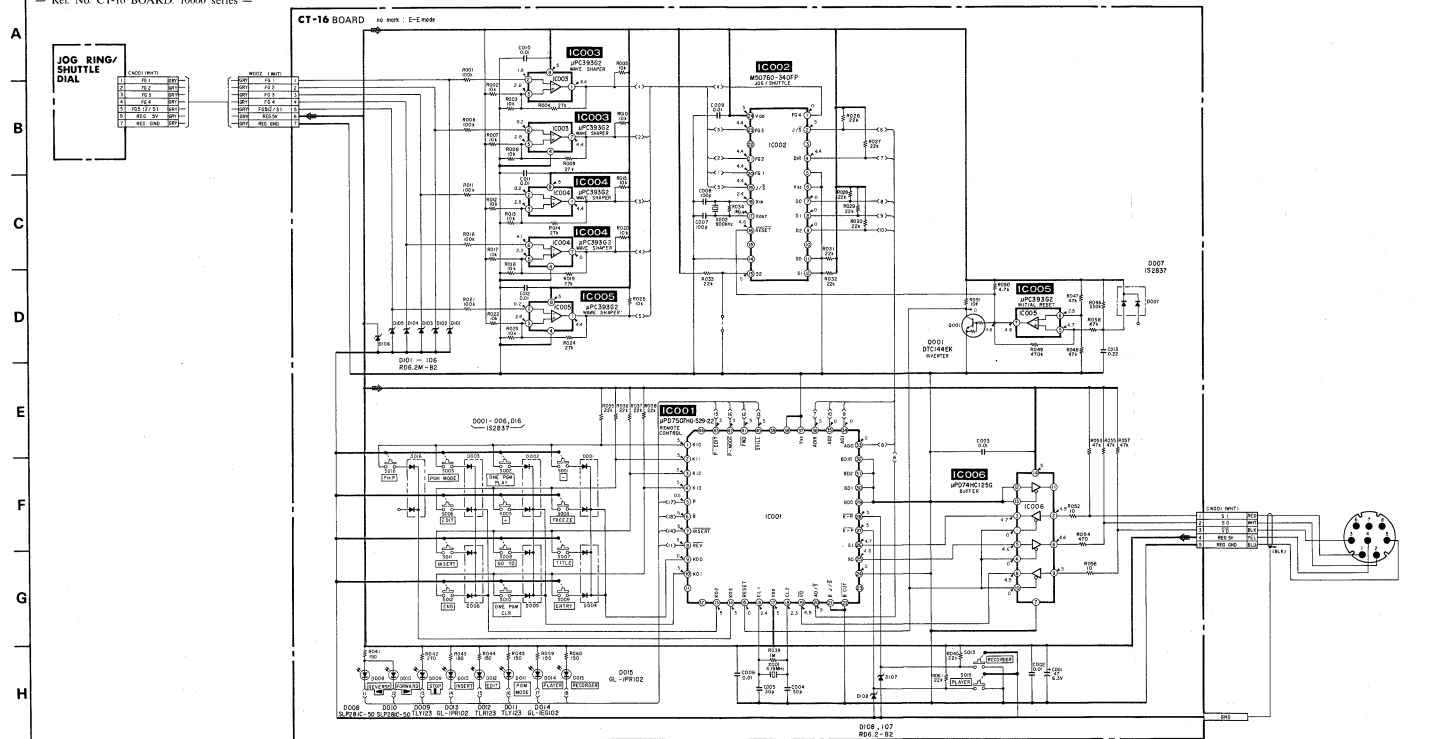
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS**
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable
- XX, -X mean standardized parts, so they may have some difference from the original one.
- SEMICONDUCTORS**
In each case, U: μ , for example:
UA...: μ A..., UPA...: μ PA..., UPB...: μ PB..., UPG...: μ PC..., UPD...: μ PD...
- CAPACITORS**
MF: μ F, PF: μ F
- COILS**
MMH: mH, UH: μ H

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
*A-7070-621-A CT-16 BOARD, COMPLETE				IC			
*3-689-521-01 HOLDER, LED, ROUND				IC001	8-759-144-91	IC UPD7507HG-50G-22	
CAPACITOR				IC002	8-759-530-20	IC MS0760-340FP	
C001	1-124-224-00	ELECT 47MF	20% 6.3V	IC003	8-759-100-93	IC UPC39362	
C002	1-163-021-00	CERAMIC CHIP 0.01MF	50V	IC004	8-759-100-93	IC UPC39362	
C003	1-163-021-00	CERAMIC CHIP 0.01MF	50V	IC005	8-759-100-93	IC UPC39362	
C004	1-163-104-00	CERAMIC CHIP 30PF	5% 50V	TRANSISTOR			
C005	1-163-104-00	CERAMIC CHIP 30PF	5% 50V	IC006	8-759-106-82	IC UPD74HC125G	
C006	1-163-038-00	CERAMIC CHIP 0.1MF	50V	Q001 8-729-901-01 TRANSISTOR DTC144EX			
C007	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	RESISTOR			
C008	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	R001	1-216-097-00	METAL GLAZE 100K 5%	1/10W
C009	1-163-038-00	CERAMIC CHIP 0.1MF	50V	R002	1-216-073-00	METAL GLAZE 10K 5%	1/10W
C010	1-163-021-00	CERAMIC CHIP 0.01MF	50V	R003	1-216-073-00	METAL GLAZE 10K 5%	1/10W
C011	1-163-021-00	CERAMIC CHIP 0.01MF	50V	R004	1-216-083-00	METAL GLAZE 27K 5%	1/10W
C012	1-163-021-00	CERAMIC CHIP 0.01MF	50V	R005	1-216-073-00	METAL GLAZE 10K 5%	1/10W
C013	1-163-081-00	CERAMIC CHIP 0.22MF	25V	R006	1-216-097-00	METAL GLAZE 100K 5%	1/10W
CONNECTOR				R007	1-216-073-00	METAL GLAZE 10K 5%	1/10W
CN001	*1-564-004-00	PIN, CONNECTOR 5P		R008	1-216-073-00	METAL GLAZE 10K 5%	1/10W
DIODE				R009	1-216-083-00	METAL GLAZE 27K 5%	1/10W
D001	8-719-100-05	DIODE 1S2837 (\square REVERSE)		R010	1-216-073-00	METAL GLAZE 10K 5%	1/10W
D002	8-719-100-05	DIODE 1S2837 (\square STOP)		R011	1-216-097-00	METAL GLAZE 100K 5%	1/10W
D003	8-719-100-05	DIODE 1S2837 (\square FORWARD)		R012	1-216-073-00	METAL GLAZE 10K 5%	1/10W
D004	8-719-100-05	DIODE 1S2837 (POM NO.)		R013	1-216-073-00	METAL GLAZE 10K 5%	1/10W
D005	8-719-100-05	DIODE 1S2837 (EDIT)		R014	1-216-083-00	METAL GLAZE 27K 5%	1/10W
D006	8-719-100-05	DIODE 1S2837 (INSERT)		R015	1-216-073-00	METAL GLAZE 10K 5%	1/10W
D007	8-719-100-05	DIODE 1S2837 (PLAYER)		R016	1-216-097-00	METAL GLAZE 100K 5%	1/10W
D008	8-719-920-05	DIODE TLG123A (RECORDER)		R017	1-216-073-00	METAL GLAZE 10K 5%	1/10W
D009	8-719-912-32	DIODE TLY123		R018	1-216-073-00	METAL GLAZE 10K 5%	1/10W
D010	8-719-920-05	DIODE TLG123A		R019	1-216-083-00	METAL GLAZE 27K 5%	1/10W
D011	8-719-912-32	DIODE TLY123		R020	1-216-073-00	METAL GLAZE 10K 5%	1/10W
D012	8-719-912-31	DIODE TLY123		R021	1-216-097-00	METAL GLAZE 100K 5%	1/10W
D013	8-719-918-65	DIODE QL-1PR102		R022	1-216-073-00	METAL GLAZE 10K 5%	1/10W
D014	8-719-918-67	DIODE QL-1PR102		R023	1-216-073-00	METAL GLAZE 10K 5%	1/10W
D015	8-719-918-65	DIODE QL-1PR102		R024	1-216-083-00	METAL GLAZE 27K 5%	1/10W
D016	8-719-100-05	DIODE 1S2837		R025	1-216-073-00	METAL GLAZE 10K 5%	1/10W
D017	8-719-106-08	DIODE R06.2M-B2		R026	1-216-081-00	METAL GLAZE 22K 5%	1/10W
D018	8-719-106-08	DIODE R06.2M-B2		R027	1-216-081-00	METAL GLAZE 22K 5%	1/10W
D019	8-719-106-08	DIODE R06.2M-B2		R028	1-216-081-00	METAL GLAZE 22K 5%	1/10W
D020	8-719-106-08	DIODE R06.2M-B2		R029	1-216-081-00	METAL GLAZE 22K 5%	1/10W
D021	8-719-106-08	DIODE R06.2M-B2		R030	1-216-081-00	METAL GLAZE 22K 5%	1/10W
D022	8-719-106-08	DIODE R06.2M-B2		R031	1-216-081-00	METAL GLAZE 22K 5%	1/10W
D023	8-719-106-08	DIODE R06.2M-B2		R032	1-216-081-00	METAL GLAZE 22K 5%	1/10W
D024	8-719-106-08	DIODE R06.2M-B2		R033	1-216-081-00	METAL GLAZE 22K 5%	1/10W
D025	8-719-106-08	DIODE R06.2M-B2		R034	1-216-121-00	METAL GLAZE 1M 5%	1/10W

5. SCHEMATIC DIAGRAM

— Ref No CT-16 BOARD: 10000 series —



Note (Schematic Diagram)

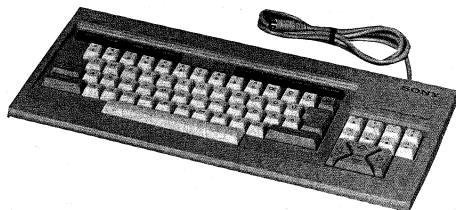
- Caution to be exercised when replacing chip components. Do not reuse the removed components but use new components. Caution should be taken as the negative side of the tantalum capacitor is weak toward heat.
- All capacitors are in μF unless otherwise noted, pF : μF : 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, $1/10\text{W}$ unless otherwise noted. $\text{k}\Omega$: 1000Ω , $\text{M}\Omega$: $1000\text{k}\Omega$.
- All variable and semi-fixed resistors have characteristics curve B, unless otherwise noted.
- NF : nonflammable resistor.
- FR : fusible resistor.
- P : panel designation.
- A : adjustment for repair.
- B : line.
- The voltage value is a reference value between the grounding when the color bar signal is received from a color bar generator.
- All voltage are dc measured with a VOM (10M Ω).

When indicating parts by reference number, please include the board name.

F.No	Part No.	Description	Remark
035	1-216-081-00	METAL GLAZE 22K 5%	1/10W
036	1-216-081-00	METAL GLAZE 22K 5%	1/10W
037	1-216-081-00	METAL GLAZE 22K 5%	1/10W
038	1-216-081-00	METAL GLAZE 22K 5%	1/10W
039	1-216-121-00	METAL GLAZE 1H 5%	1/10W
040	1-216-081-00	METAL GLAZE 22K 5%	1/10W
041	1-216-029-00	METAL GLAZE 150 5%	1/10W
042	1-216-035-00	METAL GLAZE 270 5%	1/10W
043	1-216-031-00	METAL GLAZE 180 5%	1/10W
044	1-216-029-00	METAL GLAZE 150 5%	1/10W
045	1-216-029-00	METAL GLAZE 150 5%	1/10W
046	1-216-109-00	METAL GLAZE 330K 5%	1/10W
047	1-216-089-00	METAL GLAZE 47K 5%	1/10W
048	1-216-089-00	METAL GLAZE 47K 5%	1/10W
049	1-216-113-00	METAL GLAZE 470K 5%	1/10W
050	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
051	1-216-073-00	METAL GLAZE 10K 5%	1/10W
052	1-216-001-00	METAL GLAZE 10 5%	1/10W
053	1-216-089-00	METAL GLAZE 47K 5%	1/10W
054	1-216-041-00	METAL GLAZE 470 5%	1/10W
055	1-216-099-00	METAL GLAZE 47K 5%	1/10W
056	1-216-001-00	METAL GLAZE 10 5%	1/10W
057	1-216-099-00	METAL GLAZE 47K 5%	1/10W
058	1-216-089-00	METAL GLAZE 47K 5%	1/10W
059	1-216-029-00	METAL GLAZE 150 5%	1/10W
60	1-216-029-00	METAL GLAZE 150 5%	1/10W
61	1-216-081-00	METAL GLAZE 22K 5%	1/10W
<u>SWITCH</u>			
01	1-554-371-51	SWITCH, TACT (-)	
02	1-554-371-51	SWITCH, TACT (ONE PGM PLAY)	
03	1-554-371-51	SWITCH, TACT (PGM MODE)	
04	1-554-371-51	SWITCH, TACT (FREEZE)	
05	1-554-371-51	SWITCH, TACT (+)	
06	1-554-371-51	SWITCH, TACT (EDIT)	
07	1-554-371-51	SWITCH, TACT (TITLE)	
08	1-554-371-51	SWITCH, TACT (GO TO)	
09	1-554-371-51	SWITCH, TACT (ENTRY)	
0	1-554-371-51	SWITCH, TACT (ONE PGM CLR)	
1	1-554-371-51	SWITCH, TACT (INSERT)	
2	1-554-371-51	SWITCH, TACT (END)	
3	1-554-371-51	SWITCH, TACT (REORDER)	
5	1-554-371-51	SWITCH, TACT (PLAYER)	
6	1-554-371-51	SWITCH, TACT (P in P)	
<u>CERAMIC</u>			
1	1-567-160-21	OSCILLATOR, CERAMIC (4.19MHz)	
2	*1-527-965-00	OSCILLATOR, CERAMIC (600kHz)	

When indicating parts by reference number, please include the board name.

KI-720P



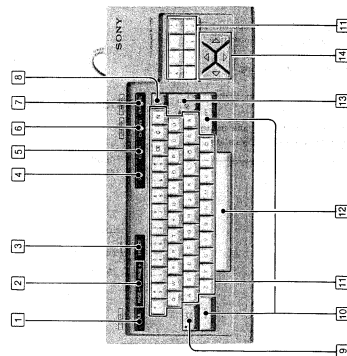
SPECIFICATIONS

Title keyboard	74 keys, N-key rollover
Keyboard	5 V DC, supplied from the monitor screen to allow the creation of a line
Power requirements	EVO-720P
Power consumption	0.13 W
Dimensions	Approx. 409 × 36 × 183 mm (w/h/d) (16 1/8 × 1 7/16 × 7 1/4 inches) incl. projecting parts and controls
Cable length	Approx. 130 cm (51 1/4 inches)
Weight	Approx. 1.3 kg (2 lb 14 oz) incl. connecting cable

TITLE KEYBOARD
SONY

1. LOCATION AND FUNCTION OF CONTROLS

Title Keyboard



- 1** **TITLE/DEL** key
Press this key to set the VTR to title mode. The character on the screen will be deleted and a new character will be created at a line.
To clear the title being displayed, press this key while pressing the SHIFT key.
- 2** **PAGE** key
Select the line page (1 through 30). Press the PAGE + key to display the next page and the PAGE - key to display the previous page.
- 3** **LINE** key
When creating a line for programme editing, use this key to display the frame picture on which the line is being created.
- 4** **CHAR** key
Select the character set.
Two sets of characters can be used in one title and the other for the characters on the second line and later.
- 5** **BLANK** key, or transparent background.
Press this key to insert one space. To insert a blank line, press this key while pressing the SHIFT key.
- 6** **DATA** key
Delete character, delete line, delete line and character.
When creating a line for programme editing, use this key to delete all characters on one line, press this key while pressing the SHIFT key.
- 7** **BS** Back space key
Delete character by one space to the left. If there is a character at that position, it will be deleted.
- 8** **CAPS** LOCK (capital lock) key
Press to lock this key to obtain capital letters when you press character keys. Press it again to unlock.

- 9** **SHIFT** key
Keeping this key pressed, press a character key to obtain capital letters, or press a number or symbol key to obtain the character or symbol for that key.
- 10** **Character repeat and symbol key**
Use these keys as you would with an ordinary typewriter.
- 11** **Space bar**
Press this key to insert one space to the right. If there is a character at that position, it will be deleted and a space will remain.
- 12** **Cursor return key**
Press this key to move the cursor to the left margin of the next line.
- 13** **Cursor control keys**
Press these keys to move the cursor in the direction indicated on the keys.

2. PRINTED WIRING BOARD

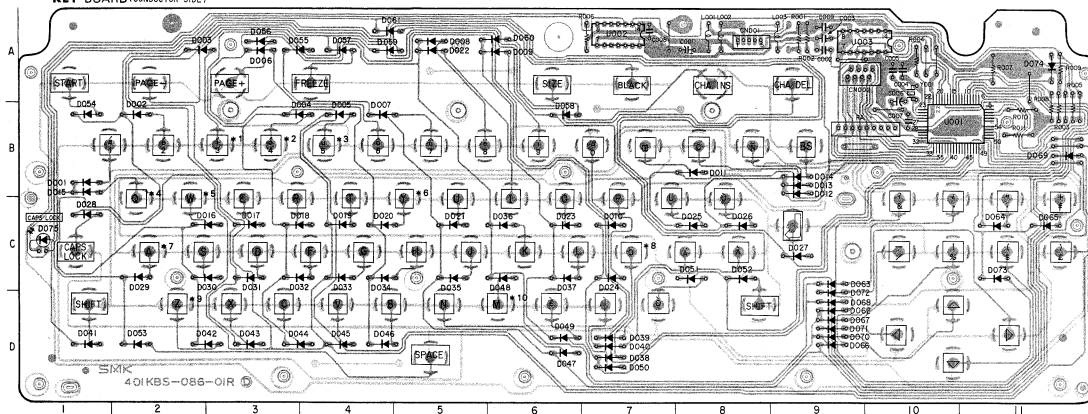
— Ref No KEYBOARD: 11000 series —

KEY BOARD

CH001 A-8
D001 B-1
D002 B-2
D003 A-2
D004 B-3
D005 B-4
D006 A-3
D007 B-4
D008 A-4
D009 A-6
D010 C-7
D011 B-6
D012 B-9
D013 B-9
D014 B-9
D015 B-1
D016 C-2
D017 C-3
D018 C-3
D019 C-4
D020 C-1
D021 C-5
D022 A-5
D023 C-6
D024 C-7
D025 C-8
D026 C-8
D027 C-9
D028 C-1
D029 C-2
D030 C-2
D031 C-3
D032 C-3
D033 C-4
D034 C-4
D035 C-6
D036 C-6
D037 C-6
D038 D-7
D039 D-7
D040 D-3
D041 D-1
D042 D-3
D043 D-3
D044 D-4
D045 D-4
D046 D-8
D047 D-8
D048 D-6
D049 D-6

D050 D-7
D051 C-7
D052 C-8
D053 D-2
D054 B-1
D055 A-3
D056 A-3
D057 A-4
D058 B-6
D059 A-6
D060 A-6
D061 A-6
D062 D-8
D063 C-9
D064 C-11
D065 D-9
D066 D-9
D067 B-11
D068 D-9
D069 D-9
D070 D-9
D071 D-9
D072 D-9
D073 C-11
D074 A-11
FPC-CN A-9
K028 C-1
U001 B-10
U002 A-7
U003 A-9

KEY BOARD (CONDUCTOR SIDE)



Note (Printed Wiring Board)

- — : Indicates a lead wire mounted on the component side.
- — : Indicates a lead wire mounted on the printed side.
- ⊗ : Through hole.
- : Pattern from the side which enables seeing.
- : Film pattern of KEY switch side.

Note

Component side: Parts on the conductor side being seen from the component are stated.

SEMICONDUCTORS

74LS05
74LS125

HD6305V0F-PAL

152837

TLR124



(Note) PANEL DESIGNATIONS ON THIS BOARD ARE FACTORY PRESET TYPE. DIFFERENCES ARE FOLLOWINGS:

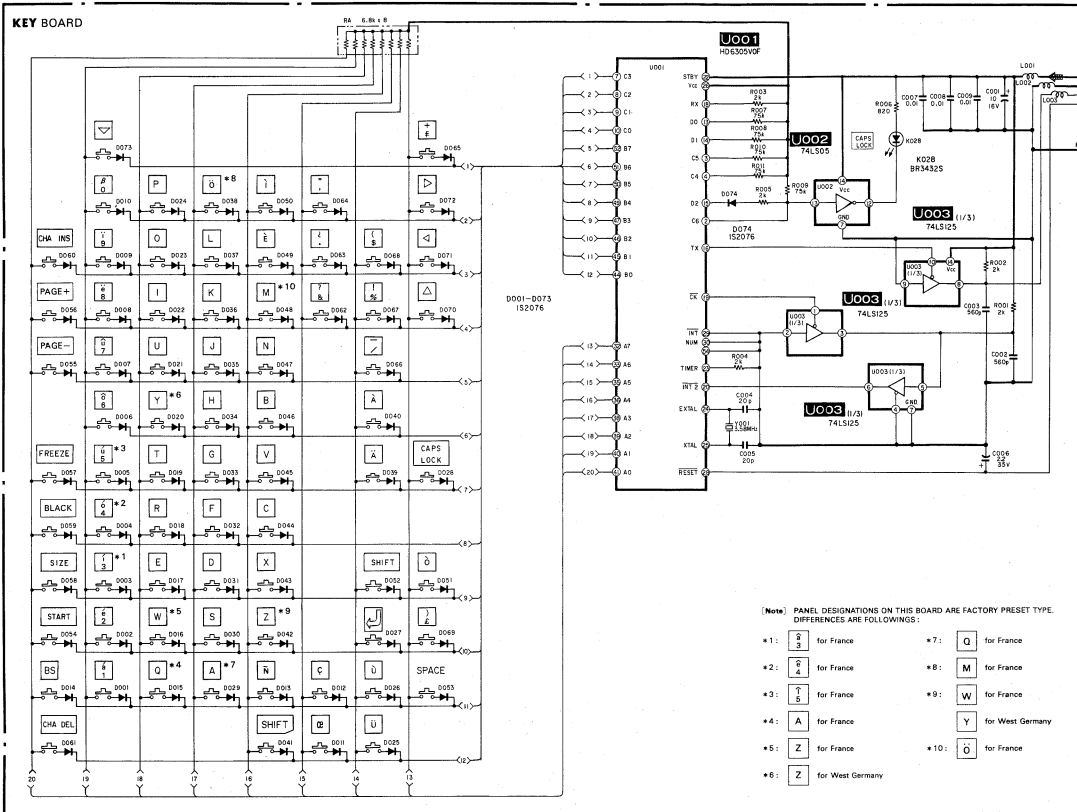
- | | |
|-----------------------|------------------|
| *1: for France | *7: for France |
| *2: for France | *8: for France |
| *3: for France | *9: for France |
| *4: for France | *10: for France |
| *5: for France | |
| *6: for West Germany | |

3. SCHEMATIC DIAGRAM

— Ref. No. KEYBOARD: 11000 series —

A
B
C
D
E
F
G
H
I
J

KEY BOARD



Note (Schematic Diagram)

- All capacitors are in μF unless otherwise noted, pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, $1/10\text{W}$ unless otherwise noted, $\text{k}\Omega$: 1000Ω , $\text{M}\Omega$: $1000\text{k}\Omega$.
- All variable and semi-fixed resistors have characteristics curve B, unless otherwise noted.
- : nonflammable resistor.
- : fuse resistor.
- : panel designation.
- : adjustment for repair.
- : B + line.
- The voltage value is a reference value between the grounding when the color bar signal is received from a color bar generator.
- All voltage are dc measured with a VOM (10M Ω)

When indicating parts by reference number, please include the board name.

(Note) PANEL DESIGNATIONS ON THIS BOARD ARE FACTORY PRESET TYPE. DIFFERENCES ARE FOLLOWINGS:

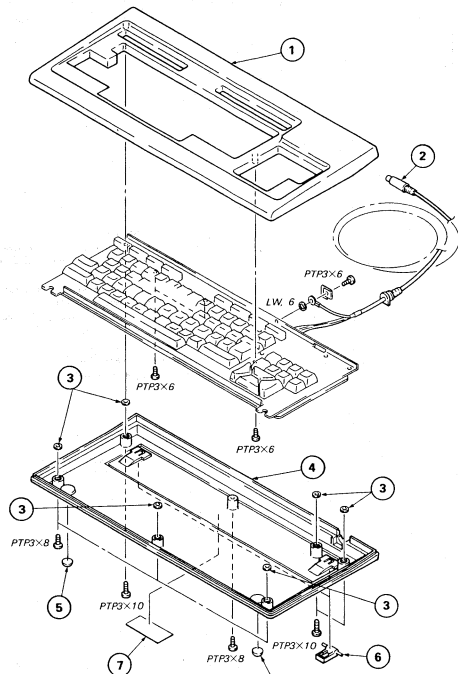
- | | |
|------------------------|-------------------|
| • 1: for France | • 7: for France |
| • 2: for France | • 8: for France |
| • 3: for France | • 9: for France |
| • 4: for France | • 10: for France |
| • 5: for France | |
| • 6: for West Germany | |

4. EXPLODED VIEWS

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

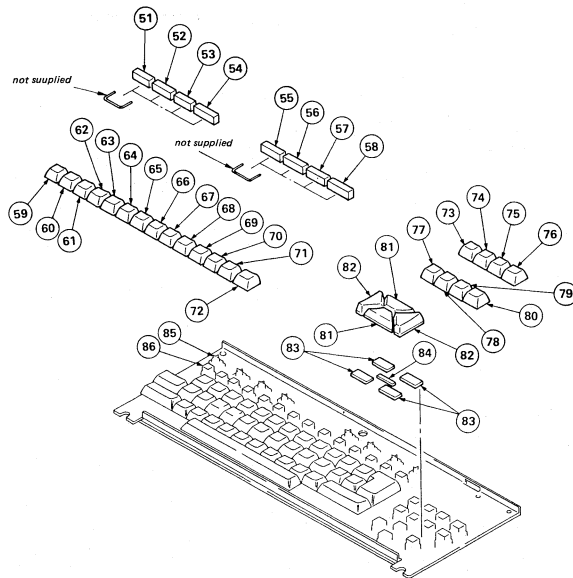
(1) CASE ASSEMBLY



Ref.No	Part No.	Description
1	9-995-144-01	CASE, UPPER
2	1-559-127-11	CORD ASSY, CONNECTOR
3	9-993-801-01	SUPPORTER
4	9-993-805-01	CASE, LOWER

Ref.No	Part No.	Description
5	9-989-306-01	FOOT, RUBBER
6	9-993-806-01	BRACKET
7	9-993-807-01	LABEL, SPECIFICATION

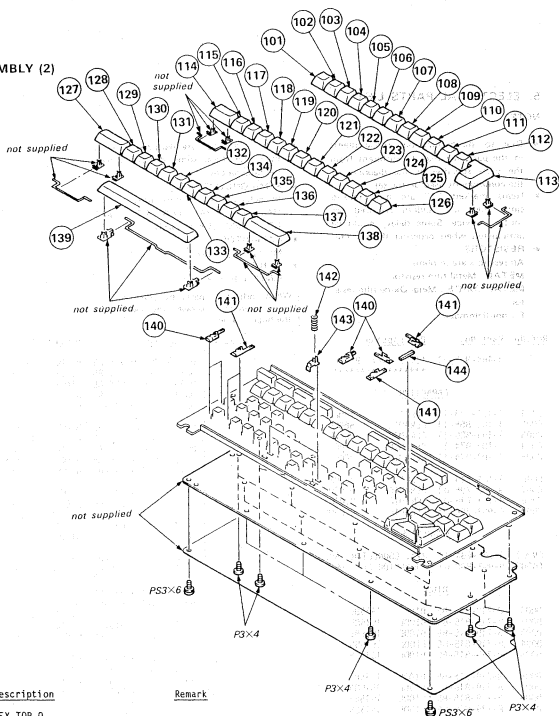
(2) KEYTOP ASSEMBLY (1)



Ref.No	Part No.	Description
51	9-995-116-01	KEY TOP TITLE
52	9-995-117-01	KEY TOP PAGE -
53	9-995-118-01	KEY TOP PAGE +
54	9-995-119-01	KEY TOP FREEZE
55	9-995-120-01	KEY TOP SIZE
56	9-995-121-01	KEY TOP BLACK
57	9-995-122-01	KEY TOP CHA INS
58	9-995-123-01	KEY TOP CHA DEL
59	9-995-124-01	KEY TOP 1
60	9-995-125-01	KEY TOP 2
61	9-995-126-01	KEY TOP 3
62	9-995-127-01	KEY TOP 4 (FOR FRANCE)
63	9-995-128-01	KEY TOP 5 (FOR FRANCE)
64	9-995-129-01	KEY TOP 6
65	9-995-130-01	KEY TOP 7
66	9-995-131-01	KEY TOP 8
67	9-995-132-01	KEY TOP 9
68	9-995-133-01	KEY TOP 10

Ref.No	Part No.	Description
69	9-995-073-01	KEY TOP Q
70	9-995-074-01	KEY TOP C
71	9-995-075-01	KEY TOP N
72	9-995-076-01	KEY TOP BS
73	9-995-124-01	KEY TOP 1/8
74	9-995-125-01	KEY TOP 1/4
75	9-995-126-01	KEY TOP 1/2
76	9-995-127-01	KEY TOP 3/4
77	9-995-128-01	KEY TOP 1/8
78	9-995-129-01	KEY TOP 1/4
79	9-995-130-01	KEY TOP 1/2
80	9-995-131-01	KEY TOP 3/4
81	9-995-132-01	KEY TOP 1
82	9-995-133-01	KEY TOP 2
83	9-991-989-01	STOPPER
84	9-991-967-01	STOPPER, RUBBER
85	9-993-803-01	SWITCH, KEY
86	9-993-802-01	SWITCH, KEY

(3) KEYTOP ASSEMBLY (2)



No Part No. Description Remark

9-995-077-01	KEY TOP Q	
9-995-137-01	KEY TOP A (FOR FRANCE)	
9-995-078-01	KEY TOP W	
9-995-138-01	KEY TOP Z (FOR FRANCE)	
9-995-079-01	KEY TOP E	
9-989-080-01	KEY TOP R 995	
9-995-081-01	KEY TOP T	
9-995-082-01	KEY TOP Y	
9-995-138-01	KEY TOP Z (FOR WEST GERMANY)	
9-995-083-01	KEY TOP U	
9-9-995-084-01	KEY TOP I	
9-995-084-01	KEY TOP O	
9-995-085-01	KEY TOP P	
9-995-087-01	KEY TOP G	
9-995-088-01	KEY TOP Q	
9-995-089-01	KEY TOP KEY ASSY	
9-995-090-01	KEY TOP CAPS LOCK	
9-995-091-01	KEY TOP A	
9-995-139-01	KEY TOP Q (FOR FRANCE)	
9-995-092-01	KEY TOP S	
9-989-093-01	KEY TOP D	
9-995-094-01	KEY TOP F	
9-995-095-01	KEY TOP G	
9-995-096-01	KEY TOP H	
9-995-097-01	KEY TOP J	
9-995-098-01	KEY TOP K	

Ref.No	Part No.	Description	Remark
123	9-995-099-01	KEY TOP L	
124	9-995-100-01	KEY TOP S	
	9-995-140-01	KEY TOP M (FOR FRANCE)	
125	9-995-101-01	KEY TOP X	
126	9-995-102-01	KEY TOP A	
127	9-995-103-01	KEY TOP SHIFT (2.25)	
128	9-995-104-01	KEY TOP Z	
	9-995-141-01	KEY TOP W (FOR FRANCE)	
	9-995-143-01	KEY TOP O (FOR WEST GERMANY)	
129	9-995-105-01	KEY TOP X	
130	9-995-106-01	KEY TOP C	
131	9-995-107-01	KEY TOP V	
132	9-995-107-01	KEY TOP B	
133	9-995-108-01	KEY TOP N	
134	9-995-110-01	KEY TOP M	
	9-995-142-01	KEY TOP Y (FOR FRANCE)	
135	9-995-111-01	KEY TOP E	
136	9-995-112-01	KEY TOP I	
137	9-995-113-01	KEY TOP D	
138	9-995-114-01	KEY TOP SHIFT (2.75)	
139	9-995-115-01	KEY ASSY, SPACE	
140	*9-989-293-01	HOOK, D	
141	*9-989-292-01	HOOK, C	
142	9-989-301-01	SPRING	
143	*9-989-291-01	HOOK, A	
144	9-991-967-01	STOPPER, RUBBER	

5. ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
All resistors are in ohms
METAL : Metal-film resistor
METAL OXIDE : Metal Oxide-film resistor
F : nonflammable

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- SEMICONDUCTORS
In each case, U : μ , for example:
UA... : μ A..., UPA... : μ PA..., UPB... : μ PB...,
UPC... : μ PC..., UPD... : μ PD...
- CAPACITORS
MF : μ F, PF : μ F
- COILS
MMH : mH, UH : μ H

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
	1-464-925-11	TITLE KEY BOARD					

		CAPACITOR					
C001	1-124-233-11	FLECT 10MF	16V	D031	8-719-815-85	D10DE 1S1585	
C002	1-101-885-11	CERAMIC 560PF		D032	8-719-815-85	D10DE 1S1585	
C003	1-101-885-11	CERAMIC 560PF		D033	8-719-815-85	D10DE 1S1585	
C004	1-101-974-11	CERAMIC 20PF		D034	8-719-815-85	D10DE 1S1585	
C005	1-101-974-11	CERAMIC 20PF		D035	8-719-815-85	D10DE 1S1585	
C006	1-124-243-11	FLECT 2.2MF	35V	D036	8-719-815-85	D10DE 1S1585	
C007	9-993-796-01	CERAMIC 0.01MF		D037	8-719-815-85	D10DE 1S1585	
C008	9-993-796-01	CERAMIC 0.01MF		D038	8-719-815-85	D10DE 1S1585	
C009	9-993-796-01	CERAMIC 0.01MF		D039	8-719-815-85	D10DE 1S1585	
		CONNECTOR		D040	8-719-815-85	D10DE 1S1585	
CN001	1-506-484-11	PIN, CONNECTOR 5P		D041	8-719-815-85	D10DE 1S1585	
CN002	9-993-800-01	CONNECTOR FPC 8P		D042	8-719-815-85	D10DE 1S1585	
		D10DE		D043	8-719-815-85	D10DE 1S1585	
D001	8-719-815-85	D10DE 1S1585		D044	8-719-815-85	D10DE 1S1585	
D002	8-719-815-85	D10DE 1S1585		D045	8-719-815-85	D10DE 1S1585	
D003	8-719-815-85	D10DE 1S1585		D046	8-719-815-85	D10DE 1S1585	
D004	8-719-815-85	D10DE 1S1585		D047	8-719-815-85	D10DE 1S1585	
D005	8-719-815-85	D10DE 1S1585		D048	8-719-815-85	D10DE 1S1585	
D006	8-719-815-85	D10DE 1S1585		D049	8-719-815-85	D10DE 1S1585	
D007	8-719-815-85	D10DE 1S1585		D050	8-719-815-85	D10DE 1S1585	
D008	8-719-815-85	D10DE 1S1585		D051	8-719-815-85	D10DE 1S1585	
D009	8-719-815-85	D10DE 1S1585		D052	8-719-815-85	D10DE 1S1585	
D010	8-719-815-85	D10DE 1S1585		D053	8-719-815-85	D10DE 1S1585	
D011	8-719-815-85	D10DE 1S1585		D054	8-719-815-85	D10DE 1S1585	
D012	8-719-815-85	D10DE 1S1585		D055	8-719-815-85	D10DE 1S1585	
D013	8-719-815-85	D10DE 1S1585		D056	8-719-815-85	D10DE 1S1585	
D014	8-719-815-85	D10DE 1S1585		D057	8-719-815-85	D10DE 1S1585	
D015	8-719-815-85	D10DE 1S1585		D058	8-719-815-85	D10DE 1S1585	
D016	8-719-815-85	D10DE 1S1585		D059	8-719-815-85	D10DE 1S1585	
D017	8-719-815-85	D10DE 1S1585		D060	8-719-815-85	D10DE 1S1585	
D018	8-719-815-85	D10DE 1S1585		D061	8-719-815-85	D10DE 1S1585	
D019	8-719-815-85	D10DE 1S1585		D062	8-719-815-85	D10DE 1S1585	
D020	8-719-815-85	D10DE 1S1585		D063	8-719-815-85	D10DE 1S1585	
D021	8-719-815-85	D10DE 1S1585		D064	8-719-815-85	D10DE 1S1585	
D022	8-719-815-85	D10DE 1S1585		D065	8-719-815-85	D10DE 1S1585	
D023	8-719-815-85	D10DE 1S1585		D066	8-719-815-85	D10DE 1S1585	
D024	8-719-815-85	D10DE 1S1585		D067	8-719-815-85	D10DE 1S1585	
D025	8-719-815-85	D10DE 1S1585		D068	8-719-815-85	D10DE 1S1585	
D026	8-719-815-85	D10DE 1S1585		D069	8-719-815-85	D10DE 1S1585	
D027	8-719-815-85	D10DE 1S1585		D070	8-719-815-85	D10DE 1S1585	
D028	8-719-815-85	D10DE 1S1585		D071	8-719-815-85	D10DE 1S1585	
D029	8-719-815-85	D10DE 1S1585		D072	8-719-815-85	D10DE 1S1585	
D030	8-719-815-85	D10DE 1S1585		D073	8-719-815-85	D10DE 1S1585	
				D074	8-719-815-85	D10DE 1S1585	
				D075	8-719-812-41	TLR124 CAPS LOCK	

Ref. No	Part No.	Description	Remark
<u>COIL</u>			
L001	1-410-858-21		
L002	1-410-858-21		
L003	1-410-858-21		
<u>RESISTOR</u>			
R001	1-246-480-25	CARBON 2K	1/4W
R002	1-246-480-25	CARBON 2K	1/4W
R003	1-246-480-25	CARBON 2K	1/4W
R004	1-246-480-25	CARBON 2K	1/4W
R005	1-246-480-25	CARBON 2K	1/4W
R006	1-246-471-25	CARBON 820	1/4W
R007	1-246-518-25	CARBON 75K	1/4W
R008	1-246-518-25	CARBON 75K	1/4W
R009	1-246-518-25	CARBON 75K	1/4W
R010	1-246-518-25	CARBON 75K	1/4W
R011	1-246-518-25	CARBON 75K	1/4W
<u>ALLY RESISTOR</u>			
A	9-993-797-01	ALLY RESISTOR 6.8K X 8	
<u>IC</u>			
001	9-995-197-01	IC HD6305V0F-PAL	
002	8-795-900-05	IC 74LS05	
003	8-795-901-25	IC 74LS125	
<u>CRYSTAL</u>			
001	9-993-798-01	OSCILLATOR, CRYSTAL (3.58MHz)	

When indicating parts by reference number, please include the board name.

